Government of Saskatchewan

Annual Report 1986-87

Saskatchewan Environment and Public Safety

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Table of Contents

Letters of Transmittal 3

Organization Chart 4

Department Mandate 5

Environmental Protection Division 6

Air Quality Branch 7

Water Quality Branch 12

Land Protection Branch 18

Mines Pollution Control Branch 26

Environmental Assessment Branch 31

Research and Special Projects 36

Public Safety Division 37

Gas Safety Branch 38

Electrical and Elevator Safety Branch 42

Boiler and Pressure Vessel Safety Branch ... 46

Fire Commissioner's Branch 50

Building Standards Branch 57

Emergency Measures Organization 58

Administration and Communications Branch ... 61

List of Tables 65

List of Figures 66

Letters of Transmittal

The Honourable F.W. Johnson
Lieutenant Governor
Province of Saskatchewan
Regina, Saskatchewan

Dear Sir:

I have the honour to submit herewith the annual report of Saskatchewan Environment and Public Safety for the period commencing April 1, 1986 and ending March 31, 1987.

Respectfully submitted,

H.J. Swan

The Honourable H.J. Swan
Minister of Environment and Public Safety

Dear Sir:

I am pleased to submit the 1986-87 Annual Report of Saskatchewan Environment and Public Safety.

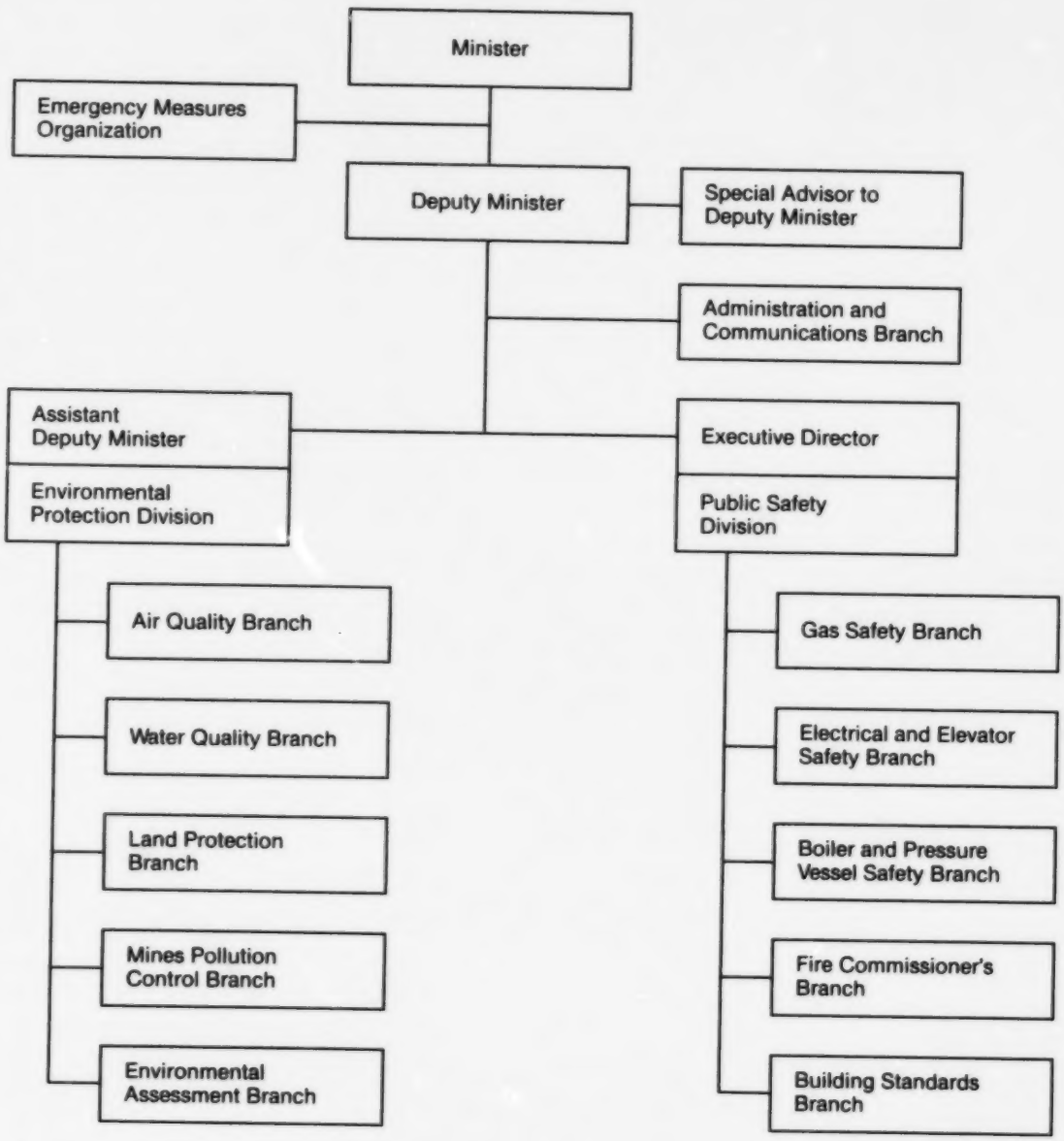
The addition of public safety and emergency measures to the Department's environmental protection mandate is reflected in this report.

I would like to take this opportunity to recognize the dedication and hard work of department staff, and also acknowledge the continued co-operation of federal, municipal and other provincial government departments.

Respectfully submitted,

Peter S. van Es

Organization Chart



Department Mandate

The department mandate in recognition of the transfer of the Technical Safety Services Branch from Saskatchewan Labour and the Emergency Measures Organization from Saskatchewan Urban Affairs is now threefold:

Environmental Protection

- To protect and enhance the environment in a manner that promotes the physical, economic and social well-being of the people of Saskatchewan today and in the future.

Public Safety

- To provide and maintain safety standards for industry and the general public in the fields of boiler and pressure vessel, gas, electrical and elevator installations; amusement rides; fire safety; and building standards and accessibility.

Emergency Measures

- To develop and maintain an effective emergency response capability at the provincial and municipal levels of government to ensure the survival and recovery of our citizens and communities from any peacetime emergency or disaster.

Legislation

The following Acts were administered by Saskatchewan Environment and Public Safety in the 1986-87 fiscal year.

The Department of the Environment Act, 1984
The Environmental Management and Protection Act
The Environmental Management and Protection Consequential Amendment Act, 1986
The Air Pollution Control Act
The Litter Control Act
The Scrap Vehicles Act
The Environmental Assessment Act
The Ecological Reserves Act
The Water Appeal Board Act
The Boiler and Pressure Vessel Act
The Gas Inspection and Licensing Act
The Electrical Inspection and Licensing Act, 1981
The Passenger and Freight Elevator Act
The Amusement Rides Safety Act
The Fire Prevention Act, 1980
The Uniform Building and Accessibility Standards Act
The Civil Defence Act

Environmental Protection Division

G.W. Howard
Assistant Deputy Minister

Mission

To protect and enhance the environment in a manner that promotes the physical, economic and social well-being of the people of Saskatchewan today and in the future.

Activities

Environmental protection activities are concentrated in five branches reporting directly to the Assistant Deputy Minister:

- Air Quality
- Water Quality
- Land Protection
- Mines Pollution Control, and
- Environmental Assessment

Poplar River Project

The Poplar River Project including the power station, mine and water control works is an example of the need for an integrated approach to environmental concerns. The air and water emissions, waste handling and mining are licensed and monitored by various branches of the department. Monitored data are exchanged with federal and U.S. agencies. Each year a joint report is provided to governments.

The Assistant Deputy Minister is responsible for assembling and disseminating Saskatchewan data and is the Canadian Co-Chairman of the Canada-U.S. Committee that reviews the data and reports on trends and concerns.

Air Quality Branch

L.J. Lechner
Director

Objectives

- To protect and enhance overall air quality in Saskatchewan.
- To prevent and/or control air pollution from human activities.

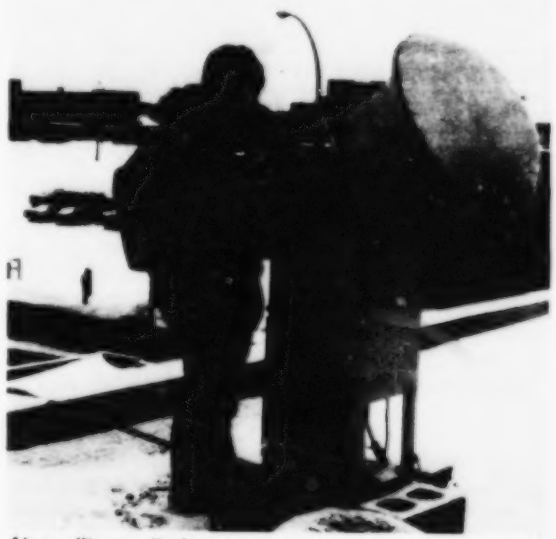
Activities

- Establish standards/objectives for air quality that are consistent with current knowledge of health and environmental effects.
- Establish emission, operating and location standards/guidelines for industry.
- Regularly monitor air quality in urban areas and carry out special investigations where necessary.
- Investigate complaints and work with industry to reduce emissions of air pollutants to the lowest level practicable. Ensure the safety of the public and the compatibility of industry with the surrounding environment.
- Issue approvals to operate for industrial sources, fuel-burning equipment and incinerators.
- Assess the impacts of air pollutants.
- Work with and through other governments to ensure the transboundary movement of air pollutants does not harm the environment or public health in neighbouring provinces, states or Saskatchewan.
- Keep the public, government agencies and industry informed of air pollution issues.

Air Management

Urban Air Monitoring Program

The provincial Urban Air Monitoring Program operated in ten locations during the fiscal year. Table 1 outlines the monitoring equipment which was in operation. Monitoring in Yorkton, Weyburn, Melfort, Esterhazy and Melville was carried out as part of a National Health and Welfare study into the respiratory health of Saskatchewan school children. Air quality indices which summarized annual monitoring data were calculated for Regina and Saskatoon. Individual subindices were determined for each of the major pollutants and were averaged to give an annual overall index. The 1986 values for Regina and Saskatoon were 31 and 21 respectively, which means that overall air quality in the downtown area of Regina can be described as fair and in Saskatoon as good. The 1986 results are comparable to those obtained in previous years. Figure 1 provides a summary of air quality indices obtained over the past 7 years. Suspended particulate matter continues to make the largest contribution to the index in both cities. Dust from roads, soil erosion and farming operations is believed to be a major contributor to the readings that were obtained.



Air quality monitoring.

Table 1
Urban Air Monitoring Equipment in Saskatchewan Cities

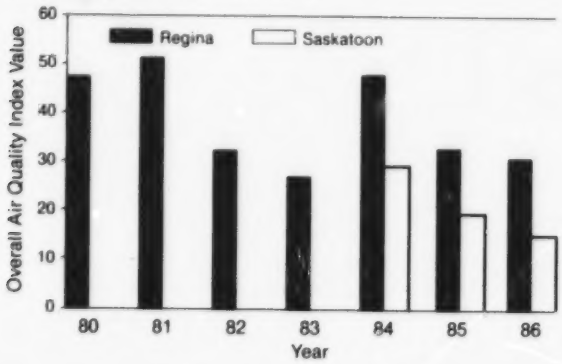
	Present	Proposed
Regina	2 high volume samplers 1 inhalable particulate sampler 1 sulphur dioxide monitor 1 carbon monoxide monitor 1 oxides of nitrogen monitor 1 ozone monitor	1 wind speed/direction monitor 1 hydrocarbon monitor
Saskatoon	2 high volume samplers 1 sulphur dioxide monitor 1 carbon monoxide monitor 1 oxides of nitrogen monitor* 1 ozone monitor*	1 wind speed/direction monitor 1 inhalable particulate monitor
Yorkton	1 high volume sampler 2 inhalable particulate samplers 1 sulphur dioxide monitor* 1 carbon monoxide monitor* 1 oxides of nitrogen monitor* 1 ozone monitor*	
Lloydminster	1 high volume sampler 1 sulphur dioxide monitor	1 wind speed/direction monitor
Estevan	1 high volume sampler 1 sulphur dioxide monitor	1 wind speed/direction monitor
Weyburn	1 inhalable particulate sampler	
Melfort	1 inhalable particulate sampler	
Esterhazy	1 inhalable particulate sampler	
Melville	1 inhalable particulate sampler	
Moose Jaw	1 high volume sampler	

* Provincial Monitors (other monitors supplied by Environment Canada or National Health and Welfare).

Table 2
Classification of Permits

	New	Renewals	Cancelled
Agricultural Chemical Formulating Plants	-	3	-
Anhydrous Ammonia Storage Facilities (Bulk)	1	2	-
Asphalt Plants	4	34	2
Bulk Blending Fertilizer Facilities	1	2	-
Chlorine Packaging Facility	-	1	-
Concrete Batching Plants	1	3	1
Crematoriums	-	3	1
Gas and Oil Gathering and Treating Facilities	2	17	-
Grain Elevators	-	39	-
Incinerators	-	6	-
Iron Foundries	-	-	1
Miscellaneous Industries	2	18	-
Oil Refineries	-	1	-
Seed Cleaning and Treating Facilities	1	8	-
Thermal Generating Facilities	-	8	-
Totals	12	138	5

Figure 1
Air Quality Indices 1981-1986



Increased emphasis will be placed on respirable or inhalable particulate matter in the future. The smaller size fractions have more human health significance and monitoring as well as ambient standards will change as a result.

Reports summarizing results from the provincial air monitoring program are available from the department on request.

In addition to the urban air monitoring program, the branch monitored air quality in the vicinity of various industries. A number of operations were required to carry out air monitoring as conditions of approval.

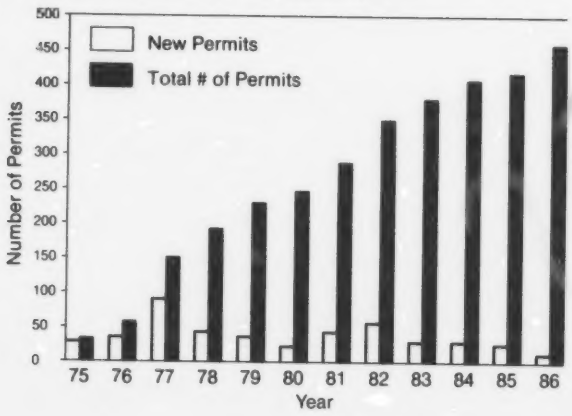
Permit System

The Air Pollution Control Regulations, which came into effect in 1975, outline the provincial air quality standards and the requirements for an industrial permit system. New industrial sources of air pollution require permits from the branch. Existing operations do not require permits unless requested by the Minister of Environment and Public Safety or unless a significant expansion program is undertaken.

During the fiscal year, 12 new permits were issued and 138 permits were renewed. Figure 2 illustrates the growth in the number of permits issued since 1975.

Figure 2

Industrial Permits Issued 1975-1986



Industrial Surveillance Activities

Monitoring

Selected major industries are required to monitor emissions and/or ambient air quality near their operations, as a result of conditions attached to their permits to operate. The results of these monitoring efforts are submitted to the branch for review. For the most part, monitoring results are well within provincial standards and requirements. Where violations occur, the branch works with industry to achieve a lowering of emissions or other resolution of the problem.

Site Inspections

Branch personnel conduct numerous formal inspections of industries which are under permit. During these inspections staff members verify that processes and equipment are operating in the intended/expected manner. Any complaints or problems are discussed and areas for improvement or changes are negotiated. In addition to formal inspections, branch personnel also visit numerous industries and other operations on a random, informal basis. The purpose of these visits is to ensure that appropriate follow-up measures are put in place in those situations where improvements were previously agreed upon.

Complaint Investigation

Eighty-two air pollution complaints were received by the branch during 1986-87. This represents an increase of approximately 14% from the previous fiscal year. In general, the complaints centered on odours and dust from operations such as refineries, unpaved roads and grain elevators. In a number of cases, small changes to operating procedures were or would be sufficient to satisfy the complaint. On the whole, Saskatchewan industries and citizens co-operated with branch requests to eliminate the causes of air pollution complaints. Of the complaints, 15 were resolved during the year, 21 were still under investigation at the end of the reporting period and 15 required further action by industry to correct the problem.

Special Studies

Urban Air Monitoring

In 1985 a major monitoring program was initiated by National Health and Welfare. The purpose of the program is to measure levels of selected air pollutants at several Saskatchewan locations and to relate these levels to the respiratory health of school children in the area. The branch participated in this study by installing and operating monitoring equipment in Yorkton, Weyburn, Melville, Melfort and Esterhazy.

The study is an important opportunity for the branch to gather data on pollutant levels in some of the smaller centres and to gain experience on additional types of equipment. On an international level, this study is one of the few which will attempt to relate levels of acid causing air pollutants to overall respiratory health and the incidence of respiratory illness.

Acid Rain

Saskatchewan Environment and Public Safety is a member of the Western Canada Long Range Transport of Atmospheric Pollutants Technical Committee. The committee plans and co-

ordinates acid deposition research and monitoring programs for western Canada. An annual report outlining the acid rain activities in western Canada during 1986 is available from the department on request.

A rainfall sampling program in northern Saskatchewan was continued in 1986. Samples of rain events were collected and analyzed from seven sites. The levels of sulphate and nitrate (indicators of acid deposition) in the rain were quite low.

A long term lake sampling program, initiated in northern Saskatchewan in 1984 in co-operation with Environment Canada was continued in 1986. Twenty-two lakes were each monitored once during the summer months.

Preliminary maps of Saskatchewan depicting soils and geology sensitivity to acid precipitation were completed in March, 1983. Discussions have been held with Manitoba and Alberta to ensure continuity at the borders before the maps were finalized. Lake sensitivity maps for the province were completed in February.

Saskatchewan Environment and Public Safety is participating with the other western provinces in a study to develop acid deposition criteria for western and northern Canada to protect highly sensitive ecosystems. It is apparent that the criteria of 20 kg/ha/yr of wet sulphate used in eastern Canada may not be appropriate for western and northern Canada. The relative importance of dry deposition and total acid loading criteria are of concern. This study is anticipated to be completed in the next fiscal year.

Legislation

Air Pollution Control Act and Regulations

A review of The Air Pollution Control Act and Regulations has been completed and a number of areas requiring updating and modification were identified. Additional ambient air quality standards will be included in the new Regulations and changes will be made to the permit system to bring major existing industries under the approval process. The Act will be renamed The Clean Air Act and will be introduced in the Legislature in the near future.

Water Quality Branch

D.A. Fast
Director

Objectives

- To protect and enhance the long-term quality of Saskatchewan water resources.
- To prevent and abate water pollution from point sources such as industrial and municipal operations and from diffuse, non-point sources.

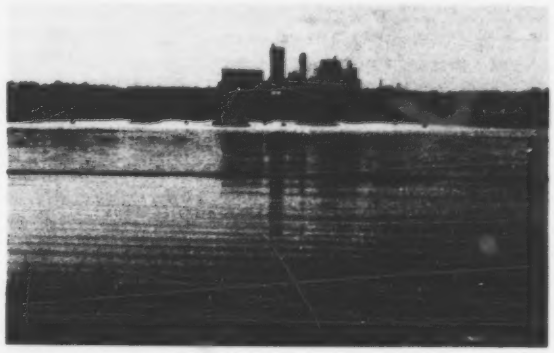
Activities

- Establish water quality objectives and standards for surface water and ground water.
- Establish design criteria, set standards, and review applications for the construction of industrial effluent works, drinking water works, sewage works and storm works.
- Establish guidelines and standards for the operation of drinking water works, industrial effluent works, and sewage works; set site specific limits and monitoring requirements for these works.
- Provide technical assistance and operator training to communities in identifying process problems, and in having qualified operators at drinking water and sewage works.
- Collect and interpret surface water quality, ground water quality and related data; process and store the data.
- Inspect, conduct tests, collect samples, investigate and gather information or require the client to do these things for industrial effluent works, drinking water works and sewage works.
- Investigate complaints, provide data and expert comment on water quality, pollution control, and drinking water treatment to the public and private, public or government agencies.
- Consult with and maintain close touch with agencies such as the Saskatchewan Water Corporation and the Prairie Provinces Water Board (PPWB) on matters that relate to water quality.
- Regulate the application of chemicals used in or near surface water for the control of aquatic nuisances.
- Administer a certification program for operators of municipal drinking water and sewage works.
- Identify research requirements on water quality, water pollution, water treatment; consult with and provide comments to other agencies on their water research program.
- Work with and through other governments to ensure transboundary water contaminants do not harm the environment or health in neighbouring provinces, states or in Saskatchewan.

Standards and Approvals Section

Drinking Water and Sewage Approvals

During the fiscal year 339 construction approvals, 65 Minister's Orders and 90 permits were issued by the branch for municipal, private and government works. Construction costs for the facilities were approximately $48 million. At year end, there were 532 and 504 municipal drinking water and sewage systems respectively. Permits



Treatment pond at pulp mill.

are issued for existing sewage works and conditions are included on monitoring, discharge limits, reporting to the Department, and on other measures required at a particular site to ensure

the protection of the environment and public health. Minister's Orders are issued for existing drinking water works.

Industrial Approvals and Inspections

During the fiscal year, 1 construction permit, 1 Minister's Order and 14 permits were issued. Site inspections and several meetings were conducted regarding these facilities.

Water Quality Management Section

Biocide Regulation

The branch issued 180 permits for the application of biocides to public surface water primarily for control of algae and other plant growth. Thirty-six permits were included in this number for use of 7 other types of chemicals or mixtures.

Surface Water Quality Monitoring

Water quality trends of Saskatchewan surface waters were regularly monitored. During the fiscal year approximately 17,500 samples were collected by the branch or by others on behalf of the Department. Over 100,000 analyses were performed. A summary of sampling locations is shown in table 3.

Water sample testing.

Table 3
Water Quality Sampling Statistics

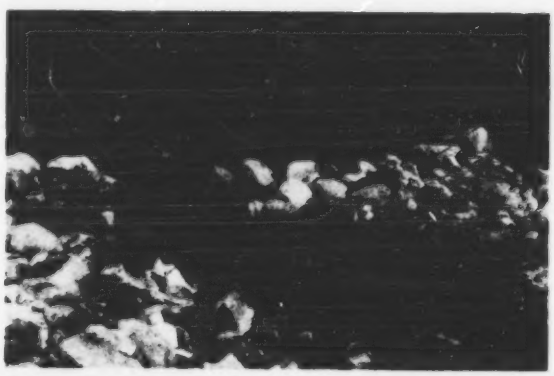
	Total Samples	Total Analysis
Surface Water Basins		
Qu'Appelle	115	2760
North Saskatchewan River	15	435
South Saskatchewan River	100	2500
Saskatchewan River	13	260
Souris River	11	429
Missouri River	6	294
Northern Contract	14	560
Other	24	576
Municipal		
Water - Chemicals	982	21191
Water - Bacteria	11002	11002
Sewage and Receiving Waters	832	19968
Industrial (Coll. by Industry)		
Weyerhaeuser	503	7545
Saskatoon Chemicals	518	3626
Armak	365	1460

Table 3 continued

	Total Samples	Total Analysis
CSP Foods	365	1825
SPC-Boundary	101	606
SPC-Poplar	972	7776
SPC-Queen Elizabeth	33	726
Other	355	1420
Receiving Stream	300	4200
Industrial (Coll. by Department)	11	264
Weyerhaeuser		
Saskatoon Chemicals	9	225
Armak	18	486
CSP Foods	2	52
SPC-Boundary	3	138
SPC-Poplar	7	350
SPC-Queen Elizabeth	6	90
Other	26	416
Special Studies	406	14616
Saskatchewan River		
Moose Jaw Mercury Control Project	35	245
Spring Runoff	20	320
Complaints	15	360
Plankton	65	65
Quality Control	34	850
Misc. (Inc. Spills)	151	2114
South Saskatchewan River Basin Study	14	406
Total	17448	102074

Data Management

The branch has 3 computer systems that are operated through SaskComp. These systems are ESQUADAT, BIODAT, and WINDAT. The ESQUADAT system is used for handling chemical and bacteriological data for surface water, drinking water and wastewater. The BIODAT system handles biological data including algae information. Information on municipal water and sewage works and on the plant operators is on the WINDAT system. The branch also has microcomputers to compliment the above main frame systems. These computer systems organize and sort the information, as well as assist in completing various graphs, calculations and statistics.



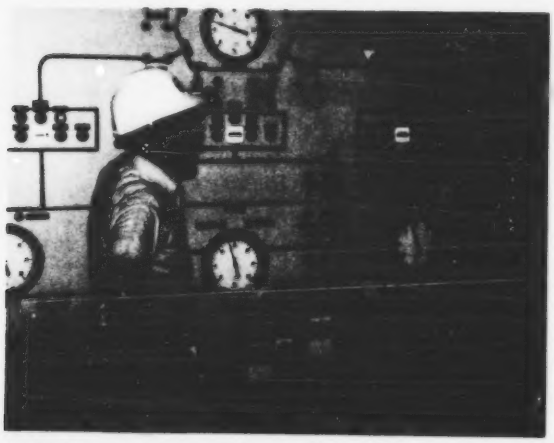
Lagoon inspection.

Monitoring, Inspections and Technical Assistance Section

Seven regional offices were in operation during 1986-87. These offices are located in Swift Current, Estevan, Kindersley, Watrous, Melville, North Battleford and Tisdale. Staff in the regions carry out inspections and sampling at industrial effluent works, municipal water and sewage works and at surface water stations.

Municipal Inspections

Almost 1,000 inspections of municipal water and sewage works were conducted by branch staff. Over 300 visits were also made to municipalities to provide technical operating assistance and to follow up on corrective measures.



Inspection of a water treatment plant.

Municipal Assessment and Certification Section

This section investigated nearly 50 complaints about water and sewage works and administered the Department's analytical support and operator training programs for municipalities.

Analytical Support Program

This program is intended to assist communities in monitoring municipal drinking water quality, wastewater quality and the quality of waterbodies receiving treated sewage. The program has been expanded to assist with the cost of analysis for the required chemical tests on drinking water, receiving waters and on effluent. During the year 59% of the municipalities participated in the program.

Operator Training

At the end of the fiscal year, there were 224 certified operators for water and sewage works under the voluntary Operator Certification Program. Fourteen training sessions for plant operators were held during the year throughout the province, with a total attendance of 221.

The branch administered the following correspondence courses: Western Canada Water and Sewage course, California State University courses, Treatment Plant Supervision course, and Maintenance Management Correspondence course for operators of municipal water and sewage works.

Branch staff conduct municipal operator training sessions.

Interagency Activities

Branch personnel participated on 24 different committees/boards. These range from the National Water Quality Task Force and the Water Quality Committee for the Prairie Provinces Water Board to the Advisory Board at Kelsey Institute. Comments on some of the interagency activities are noted below:

Mercury in Saskatchewan Fish

Branch staff chaired an Interagency Mercury in Fish Committee, which reviews the results of mercury in fish in provincial waterbodies and makes recommendations to the public concerning fish consumption limits.

Effluent Irrigation

The branch co-ordinated activities with the Saskatchewan Water Corporation and Saskatchewan Agriculture on effluent irrigation. A number of meetings took place with these agencies to develop initiatives for effluent irrigation. Effluent irrigation is a good environmental option for sewage disposal where suitable land is available. Other related activities are the branch's development of guidelines for the design, installation and operation of monitor wells and interagency development of a brochure on the utilization of municipal sewage effluent for irrigation.

Prairie Provinces Water Board

A branch representative participated on a committee which is developing site specific water quality indicators for major streams at the interprovincial boundaries.

Saskatchewan Water Corporation

The Water Corporation Act requires the Department's review and approval of construction applications for water and sewage works prior to the issuance of a construction license by the Saskatchewan Water Corporation.

National Water Quality Guidelines

Staff participated on a National Water Quality Task Force which has prepared Canadian Water Quality Guidelines for various water uses. The Guidelines provide a uniform basis for water quality management in Canada.

South Saskatchewan River Basin Study

The branch was involved with the design of the water quality component of the Canada-Saskatchewan South Saskatchewan River Basin Study. The branch will have the lead role in two studies in the coming year.

The first is a study of Water Quality Trend Analysis on the basin's water quality data bases. The second, a refinement of the Lake Diefenbaker sampling and eutrophication model will be done in conjunction with Environment Canada.

Grasshopper Spraying

The branch, in co-operation with Environment Canada, monitored selected surface waters in southern Saskatchewan to determine the presence of insecticide residues used for grasshopper control. The 1986 program involved collection and extraction of large sample volumes to improve detection limits. Trace quantities in the parts per trillion range of the most commonly used insecticides were detected at some locations. These concentrations are 2-3 orders of magnitude lower than safe guideline levels for drinking water and protection of aquatic life.

Complaints and Information Requests

A total of 137 complaints were handled about water quality, sewage disposal and biocide use in water.

Eight hundred and fifty-six information and data requests from consultants, government agencies and private individuals were received.

Projects

Saskatchewan River Study

Intense water quality monitoring surveys were conducted on Codette Reservoir and on downstream river reaches. Baseline water quality information as well as nutrient loading data was obtained for the reservoir. Intensive surveys of the river reach below the reservoir near Nipawin provided detailed information about the quality of water and mixing characteristics of the two major wastewater effluent discharges in the reach. Environment Canada, Saskatchewan Power Corporation, Saskatchewan Parks, Recreation and Culture as well as local municipal and industrial clients participated in the study. The sampling and field tests are expected to be completed in 1987 and then a report on the results will be prepared.

Lake Diefenbaker

A report on a comprehensive study of the water quality in Lake Diefenbaker and the Upper South Saskatchewan River is under preparation.

The objectives of the study are to provide additional information on the water quality of Lake Diefenbaker and the Upper South Saskatchewan River, to evaluate water quality in relation to existing and future uses and to identify existing or potential problems. The study results will support the development of water quality indicators for the South Saskatchewan and Red Deer Rivers at the Alberta border by the Prairie Provinces Water Board. The results will also assist the Department in developing water quality objectives for the South Saskatchewan River basin.

Effluent Mixing Zone Guidelines

Guidelines for effluent mixing zones are being prepared. The guidelines are intended to inform clients of the desirable characteristics that should be achieved within effluent mixing zones in surface waterbodies. The guidelines will be included in the revised edition of Saskatchewan's Surface Water Quality Objectives which is to be prepared in 1987-88.

Drinking Water Chlorination

Chlorination of drinking water is a very important safeguard against waterborne disease. In order to educate and promote this idea to the general public, three brochures on chlorination were developed.

The brochures explain the history and reasons for drinking water chlorination, and address common questions concerning this disinfection practice.

Monitoring Well Guidelines

The branch initiated a review of installation and sampling methods for ground water monitoring wells and conducted test well drilling at two lagoon sites. The information will be used to prepare guidelines on ground water monitoring at sewage lagoons and effluent irrigation sites.

Land Protection Branch

D.J. Clark
Director

Objectives

- Preserve and enhance the environment by managing land use activities.
- Ensure that high quality natural, agricultural and recreational lands are not irreversibly allocated or impacted by incompatible uses.

Activities

- Safeguard the physical and living environment in the event of storage or spill of hazardous substance.
- Provide advice on risks to public safety and property in the event of a deliberate or accidental discharge of hazardous substance into the environment.
- Assess degree of contamination of lands as a result of accidental or intentional release of chemicals.
- Encourage waste reduction, recycling, reuse and recovery.
- Regulate environmentally acceptable storage, treatment and disposal of waste to land.
- Identify degradation pathways and potential impacts on the environment as a result of the use of toxic chemicals.
- Promote rehabilitation of polluted or disturbed lands.
- Management of programs to recycle auto bodies and pesticide containers.
- Identify and protect environmentally sensitive or hazardous lands.
- Recommend development of only those lands that are free from hazards such as flooding, erosion, subsidence and poor drainage.

Waste Management

Spill Response and Control

Saskatchewan Environment and Public Safety is responsible for the enforcement of the Environmental Spill Control Regulations which are designed to safeguard the environment in the event of a spill. The regulations require that spills of pollutants be reported immediately to the department's Spill Report Centre to ensure proper containment, clean-up and disposal of contaminated material.

Spill Report Centre personnel are available 24 hours a day. When a spill is reported, they determine if adequate measures have been taken to clean-up the spill and may also provide advice and/or instructions on further work required. The spill team is equipped to make on-site inspections, determine if appropriate actions are being taken and advise on disposal requirements.

Oil skimmer is used during simulation of oil spill to a waterbody.

During the year the Spill Report Centre received approximately 1000 calls. Two hundred and thirty of these calls were to report spills under the Environmental Spill Control Regulations. In addition, the Spill Response Team dealt with numerous complaints and requests for information concerning chemical handling, disposal of chemicals, transportation of dangerous goods and environmental manifests.

One-third of the reported spills required visits to the site to investigate, inspect and supervise remedial activities. Dozens of additional inspections were completed with the assistance of other provincial or municipal officials and emergency response organizations.

Table 4 summarizes the number of spills reported, the product and the total volume spilled.

Table 5 illustrates the cause of the spills correlated with number of occurrences and volumes of product spilled.

Table 4
Spill Statistics by Product, Number of Incidents and Quantity

Product Spilled	Number of Incidents	Quantity
Petroleum Products		
Asphalt	5	41.4 m^3
Crude Oil	4	9.7 m^3
Diesel	42	383.3 m^3
Heating Oil	8	70.2 m^3
Gasoline	41	273.2 m^3
Transformer Oil (<5 ppm)	6	3.7 m^3
Used Oil	2	90.7 m^3
Other	10	49.7 m^3
Sub Total	118	921.9 m^3
Non-Petroleum Products		
Acid	3	17.8 m^3
Fertilizer	7	10.6 m^3/4800 kg
Industrial Chemical	18	866.7 m^3/159,025 kg
Industrial Waste	3	10,000.5 m^3
Other	4	1.1 m^3
PCBs	40	0.7 m^3
Pesticides	11	0.9 m^3
Radioactive	9	117.7 m^3/125 kg
Sewage	17	3,056.8 m^3
Sub Total	112	14,072.8 m^3/163,950 kg
Total	230	14,994.7 m^3/163,950 kg

Table 5
Spill Statistics by Cause, Number of Incidents and Quantity

Cause of Spill	Number of Incidents	Quantity
Transportation-truck, railway, etc.	48	195.1 m^3/158,840 kg
Handling	27	190.3 m^3/200 kg
Equipment Failure	65	9,770.8 m^3/4,810 kg
Below Ground Tank Leaks, Line Leaks	19	1,017.9 m^3
Above Ground Tank, Overflows	32	398.1 m^3
Miscellaneous-lightning, vandalism, unknown	39	3,422.5 m^3/100 kg
Total	230	14,994.7 m^3/163,950 kg

Industrial Programs and Hazardous Wastes

A large amount of wastes, some of which are hazardous, are generated by a variety of industries and businesses, government agencies and the general public of Saskatchewan. The Department is responsible for ensuring that these wastes are handled, transported, stored, treated and ultimately disposed of in a proper manner. In fulfillment of this responsibility, the Department monitors environmental conditions, carries out assessments and inspections of industrial sites, provides technical advice on waste management problems, and issues Orders by the Minister for the operation of industrial facilities and the control and clean-up of pollutants.

The branch dealt with a variety of industrial matters during the year. This included the reclamation of two oil refinery sites, a pesticide formulating plant, and an institutional landfill; the storage and treatment of PCB wastes, institutional chemicals, brine wastes, and other chemical wastes; the recycling of hazardous wastes such as used motor oil, mercury, methanol, paint solvents, paint products, chlorinated solvents, ammonium hydroxide and asphaltic wastes; the disposal of industrial and hazardous wastes such as mercury, PCBs, arsenic, solvents, pesticides, acids, caustics, refinery tank bottoms, and gas sweetening wastes; and included the development of guidelines for the reclamation of industrial sites and the disposal of waste sludges.

The branch continued its efforts to ensure the sound management of industrial and hazardous wastes in Saskatchewan. It advanced the development of a plan to manage hazardous wastes which is based on a strategy to recycle, reuse, reduce, and recover wastes, commonly referred to as waste minimization, and a system to treat and dispose of wastes at proper waste management facilities.

A study to identify a method of achieving waste minimization, which is the first component of the strategy, was commissioned by the branch during the year. The study was carried out by the Saskatchewan Research Council and provided information about waste exchanges and the operation of effective waste minimization programs in North America. It concluded that an active waste exchange and a technical assistance program would be a viable component of an overall provincial waste management strategy.

The Department now plans to complete and implement the strategy in a systematic manner so that all hazardous and industrial wastes that are generated in the province can be managed in an adequate manner. Waste minimization will be the first priority in the waste management plan.

Landfills and Liquid Waste Haulers

The Municipal Refuse Management Regulations which were enacted in 1986 pertain to the establishment and operation of municipal refuse disposal grounds in the province. A regulatory process was developed to ensure the environmentally sound siting, development, operation and monitoring of such facilities. The activities of the department in this respect are summarized in the following table.

Table 6
Municipal Landfill Activities

Applications Received	43
Authorizations to Establish Facilities Issued	21
Permits to Operate Issued	10
Landfill Site Closures	3
Complaints Received	57
Inspections	293
Bylaws Reviewed and Approved	18

The Regulations also require that all persons or companies involved in the business of transporting and disposing of liquid domestic wastes obtain a permit from the Department. A total of 126 permits have been issued.

Transportation of Dangerous Goods

The Transportation of Dangerous Goods Act (TDGA) and Regulations are designed to promote public safety in the transportation and handling of dangerous goods. The Department's role is to register all parties involved in the movement of hazardous waste and to ensure compliance with the legislation in the transport of the waste to treatment or disposal facilities.

Communication is maintained with other provincial jurisdictions regarding interprovincial waste movement. Registration activities are outlined in the following table.

Table 7
Transportation of Dangerous Goods Registrations

	1986-87	1985-86	Total
Waste Generators	41	11	52
Waste Carriers	16	8	24
Waste Receivers	7	4	11

Resource Conservation and Recovery

Pesticide Container Disposal Program

There are approximately one million pesticide containers sold annually in the province. Surveys conducted by the Saskatchewan Safety Council in 1981 and 1982 showed that a large number of these containers were not disposed of appropriately.

In response to numerous requests from concerned groups, the Pesticide Container Disposal Program was initiated in 1983. Approximately 70 per cent of rural municipalities took advantage of the program the first year with the establishment of 170 sites. In a number of cases, urban and rural municipalities joined forces to provide appropriate and accessible sites.

In its initial year of operation over 250,000 containers were collected and 60 barrels of residue were recovered for proper disposal.

The number of sites in the province have increased since the first year of the program to a number now totalling 270 sites. During 1986-87 the number of containers collected at the sites totalled 1.1 million with 96 barrels of residue recovered for proper disposal.

Operation Recycle

The responsibility for Saskatchewan's scrap vehicle recovery program was transferred to Saskatchewan Environment and Public Safety from the Department of Supply and Services on April 1, 1984. The purpose of the Operation Recycle Program is to encourage the effective use of recyclable components of scrap vehicles and to relieve a disposal problem created in rural and urban municipalities.

A system of 180 collection sites has been established throughout the province where vehicles gathered under the program are deposited. These vehicles are then transported to Regina where they are processed at the IPSCO steel mill. Between 13,000 and 15,000 vehicles are processed during each fiscal year.

Litter Control Act

Complaints under the province's Litter Control Act are also handled by the Land Protection Branch. Approximately 30 complaints were received and acted upon ranging from failure to comply with bottle refund regulations to depositing of refuse on Crown Land.

Chemical Management

This section continued to provide technical information and assistance to the public, industry and other government departments pertaining to the proper storage, use and handling of toxic or hazardous chemicals. With the increasing public awareness on the potential risk of hazardous substances to public safety and the environment, as well as the establishment of the Institutional Chemical Collection Program in September, 1986, the number of inquiries handled by section staff increased to approximately 600 this year.

To prevent and/or reduce the release of hazardous substance into the environment, regulations to control the hazardous substance storage facilities in the province are being developed under The Environmental Management and Protection Act. Two drafts of the proposed regulations were distributed to a broad range of agencies, companies, public groups for their review and comment during this year.

Other activities of this section are summarized as follows:

Pesticide Container Disposal Site Assessment Project

The Pesticide Container Disposal Site Assessment Project was designed and conducted during 1986-87 to provide some insight into the operational status and integrity of container retention sites across the province. The project involved a preliminary assessment of all existing sites followed by a detailed field study of 78 selected sites. An in-depth report was prepared which outlined the status of the sites in terms of their condition and integrity as well as recommending alterations to operational practices and siting criteria. The recommendations will be communicated to municipalities affected in order to ensure any potential environmental or public health risks are minimized.

A study of the generation and fate of air-borne pollutants at container retention sites is planned for 1987-88. The study is necessary to gather information of significance to isolation distance and potential health hazards associated with site operation.

Institutional Chemical Collection Program

In 1986, Saskatchewan Environment and Public Safety initiated the Institutional Chemical Collection Program (ICCP) to service provincial institutions, particularly high schools and hospitals.

The objectives of the ICCP are (a) to alleviate the immediate problem by removing the backlog of unwanted hazardous, deteriorated or outdated

chemicals from schools and hospitals across the province; and (b) to prevent the reoccurrence of a similar problem in the future by providing technical advice and information concerning proper chemical management and laboratory safety.

To date, the Department has received approximately 500 replies to the program with 275 institutions requesting disposal assistance. A total of 175 institutions have been visited and approximately 7000 kg of chemicals collected for disposal. Each lab is thoroughly inspected with assistance and advice given regarding the use of alternative chemicals, chemical storage and proper lab management.

As a follow-up to the program, a set of guidelines on chemical managment, storage and alternatives is being prepared for distribution to all schools and hospitals. Presentations on the subject have also been given to the student bodies at some schools and science teacher groups.

Chemical packing procedure used in the Institutional Chemical Collection Program.

Pesticide Residue Treatment Projects

A study of the persistence and effects of pesticide residues was conducted during 1986 to assess the suitability of land application as a potential disposal method. The study was also designed to provide a better understanding of the fate of contaminants spilled at Pesticide Container Disposal Sites. Preliminary results indicated that the residues were not persistent in the soil for more than 18 weeks, did not impact upon the soil nutrients and provided control of some weed species. A detailed report of the findings of this study is planned for 1987-88.

The Chemical Management Section in co-operation with Environment Canada conducted a reverse osmosis pesticide residue treatment demonstration project in 1986. The project demonstrated that the reverse osmosis process was capable of reducing pesticide residue volumes by concentrating the active ingredients. However, several operational difficulties limited the efficiency of the process as applied to the pesticide residue during the trial.

Beginning in 1987-88 the Chemical Management Section will be working with Environment Canada in conducting a joint 3 year study to investigate the use of a lined evaporation pit for the disposal of pesticide residues.

Hazardous Chemical Fact Sheets

During 1986-87 the Chemical Management Section initiated the development of Hazardous Chemical Fact Sheets. The fact sheets documented information such as physical properties, emergency procedures, toxicology, degradation pathways, persistence, and environmental concerns. The list of chemicals covered by the Hazardous Chemical Fact Sheets will be expanded in 1987-88.

Land Management

Reservoir Development Areas

A Reservoir Development Area is an area of land surrounding a reservoir and designated as such to ensure orderly development of a land use around it and to accommodate the various uses of a reservoir such as power generation, recreation, public uses, cottages and institutional camps. A Reservoir Development Area is intended to ensure that land uses at designated reservoirs are well planned, provincial interests are identified and protected and high environmental standards are maintained in sensitive shoreland resource areas.

Work was begun on amendment of the Reservoir Development Area Regulations under The Environmental Management and Protection Act during the year.

To date, seven designated provincial reservoir development areas, containing 5,700 square kilometres have been established. These are Lake Diefenbaker, Blackstrap, Brightwater, Bradwell, Zelma, Dellwood and Avonlea Reservoirs. Several other reservoirs within the province are under consideration for inclusion within this program.

During the year the branch issued permits for a sprinkler irrigation system and a marine services facility on Lake Diefenbaker. Reviews were under way for the Luck Lake Irrigation Project pump stations and a private sprinkler irrigation system at year end.

In addition, development permits were issued at Dellwood Reservoir and at Blackstrap Reservoir for a residential site and for erosion protection measures respectively.

Division staff provided technical and professional advice to numerous people throughout the province considering development adjacent to waterbodies.

Contacts with cottage owners associations and municipalities to implement and update building standards and zoning bylaws for cottage areas within reservoir development areas were undertaken during the fiscal year.

Development Proposals

The division reviews those development proposals having environmental implications, particularly around waterbodies or other environmentally sensitive areas to ensure that the proposals are not subject by virtue of location, to various natural hazards will not significantly impact on the surroundings and to ensure that all aspects of good planning practice are considered.

During the fiscal year 47 shoreland proposals, 46 rural residential proposals, 59 commercial industrial proposals, 32 proposals for municipal purposes, 32 residential proposals and 17 other proposals for various purposes were reviewed by division staff. These 233 proposals provided for the creation of 3522 parcels intended for various purposes.

These proposals were referred to the branch by Saskatchewan Urban Affairs and Saskatchewan Rural Development. After reviewing their environmental suitability and possible impact on other nearby uses, the branch provided comments and guidelines to the referring departments.

Studies

Work was continued in co-operation with the Waste Management Section, to develop a management plan for the Thunder Creek Mercury Containment Site in Moose Jaw. Site work carried out during the year included maintenance, surface damage remedial work and ground water elevation monitoring.

No other studies were undertaken by the section during the fiscal year.

Investigations

Investigations carried out on report shoreland problems included the dumping of debris into lake beds and rivers, overcrowding in shoreland areas, boating conflicts, public access along the waters edge and assessing physical hazards at specific sites.

Ecological Reserves

Two branches, the Environmental Assessment Branch and the Land Protection Branch contribute to the establishment of ecological reserves in Saskatchewan.

An ecological reserve is a protected natural area. Reserves are established to preserve genetic material, environmental bench marks, rare or endangered species and unique environments. The predominant activities occurring on reserves are research, education and nature appreciation.

During the year the Department completed a program operations plan to be used for guiding ecological reserve program activities.

On September 4, 1986 Assiniboine Slopes became the province's first ecological reserve. Assiniboine Slopes is a 2.9 square mile area of Crown land straddling the Assiniboine River near the Manitoba border. The reserve is primarily a representative example of Saskatchewan's aspen parkland, however it also contains habitats and species typical of the boreal forest and prairie grassland. Thus, it possesses unusual ecological variety for such a small area. The Department has currently under review a proposed reserve management plan.

The Department continued to review natural areas throughout the province in order to establish priorities for future ecological reserve establishment.

Mines Pollution Control Branch

R.R. Sentis
Director

Objectives

- Ensure short and long-term protection of the environment at mining and milling operations.
- Protect the public from naturally occurring radiation hazards.

Activities

- Licensing; to issue "approvals to operate" or "ministerial approvals" to mining companies.
- Inspections and monitoring; to routinely inspect mining operations and collect samples to determine compliance with license conditions and provincial regulations.
- Data handling; to review and analyze all environmental data related to the mining industry.
- Regulation development; to develop and update provincial regulations related to the mining industry.
- Radiation surveys; to conduct surveys to monitor areas where the public exposure to naturally occurring radiation is a concern.

Uranium Mines Section

The section is responsible for licensing, monitoring and inspecting all uranium and gold mining operations in the province. Staff visit the sites to perform inspections and take samples in and around the operations. Approvals to construct and to operate the facilities are administered by the branch. In addition, companies are required to monitor all aspects of the environment on a regular basis and submit the data to the section. This monitoring data resulted in more than 25,000 separate water quality analyses being performed from 250 different sample locations in over 1,700 sample submissions. Other monitoring requirements include fish, sediments, macrophytes, air quality, and other biological media. The public has access to all licenses issued and the monitoring data.

Amok, Cluff Lake

Mining continued during the fiscal year at the Claude Open Pit and the D-P Underground Mine.

Amok requested approval during 1986 to mine the Dominique Janine Ore Body. It was determined that this ore body was covered by previous assessment reports and approval was granted in October of 1986.

During the fiscal year Amok completed it's application to reprocess the leach tails residues that were being stored from the phase one operations. Approval to proceed was granted to the company in February, 1987.

During the fiscal year, staff conducted 14 inspections of the operations, eleven samples were taken and a total of 518 analyses were performed.

Eldorado Resources Limited, Beaverlodge

Eldorado Resources Beaverlodge operation near Uranium City has completed its first full year of transition phase monitoring since the completion of the decommissioning work at the site. Site inspections have shown that some areas of the site will require additional work; for example, some of the waste rock areas have slumped and will require additional fill. Remedial work will be started during the summer of 1987.

Branch staff inspected the site seven times during the fiscal year, collecting 28 samples from 8 monitoring stations. A total of 1008 analyses were performed.

Key Lake Mining Corporation, Key Lake

The Key Lake Mining Corporation's mining and milling operation at Key Lake completed its third year of operation on October 20, 1986.

No major modifications or changes were made to the facilities during the fiscal year.

The company has completed the mining of primary ore from the Gaertner ore body. Removal of overburden from the G-7 area and placement into the Gaertner Pit is continuing.

Construction activities for the development of the Dielmann ore body included the continued removal of overburden and the installation of sixteen ground water dewatering wells. There are a total of eighty-seven ground water dewatering wells in operation. Present scheduling indicates mining of the Deilmann ore body will commence early in 1988.

The company operates a batch discharge system to monitor the quality of the effluent prior to discharge to the environment.

The branch conducted twelve inspections during the fiscal year. Twenty-four samples were taken at three different stations and 888 analyses were completed.

Eldor Mines, Rabbit Lake/Collins Bay

During the fiscal year, mining, pit expansion and ore removal continued at the Collins Bay B-zone. No major problems were encountered. Monitoring of the Collins Bay dyke confirmed the stability of the structure. Ore stockpiling and transportation of ore to the mill also continued. The runoff collection system for the waste rock storage area was also completed and monitoring of the runoff was initiated.

The modifications and fine tuning of the new mill circuitry for the B-zone ore was completed by September, 1986. Improvements were made during the year on the operation of the systems used to collect, handle and treat runoff and contaminated waters on the site.

Monitoring of the effluent at the final point of control confirmed that all license conditions with respect to effluent limits were met, with nine of the thirteen contaminant parameters decreasing from the previous year.

Specific improvements were made to the effluent treatment system; the buildup of solids was removed from the precipitation ponds, baffles were installed to increase retention times and the filter system was upgraded.

The development of final design parameters for the tailings placement system required additional test work during the fiscal year. This test work will continue into the next fiscal year with a final report being submitted to the regulatory agencies in the fall of 1987.

During 1986-87, thirty-two samples were taken at eight different locations and 1,300 separate analyses were conducted.

Cigar Lake Mining Corporation

During 1986 the Cigar Lake Mining Corporation continued their environmental investigation and operational feasibility studies of the Cigar Lake property. In March, 1987, a groundwater pump test was conducted in support of the design of a proposed test mine.

As this site is an advanced mineral exploration property, branch staff conducted three environmental inspections during the fiscal year. One compliance water quality sample was obtained and analyzed for 43 parameters. No environmental problems were identified.

Regular site inspections are planned for the coming year.

Mahogany Minerals Resources Inc. - Royex Gold Mining Corporation Jolu Property

During 1986 extensive mineral exploration was conducted at this site. In May, 1986, the Department issued Ministerial Approval MA37 authorizing the company to dewater the old Decade mine to allow entrance for geological feasibility work. In September, 1986, Ministerial Approval MA37A was issued for the Phase 2 exploration decline development at the Rod Zone.

In December, 1986, the Royex Gold Mine Corporation by agreement with Mahogany

Minerals Resources Inc. became the operator for this property.

By the end of March, 1987, the Phase 1 project was completed to 100 metres in depth with approximately 60,000 tonnes of waste rock and 5,000 tonnes of ore brought to surface. Geological and environmental evaluations are ongoing and plans for a Phase 2 exploration underground extension to a depth of 185 metres are in preparation.

During the fiscal year, eight site inspections were conducted, four water quality samples were taken at three stations and analyzed for a total of 160 parameters.

Placer Development - Seabee Project

Extensive geological exploration has occurred at this property. Plans are being made to initiate underground exploration mine workings early in 1987.

One site inspection was performed at this site in 1986.

Saskatchewan Mining Development Corporation - Star Lake Project

Construction of the Star Lake Mill was completed by November, 1986, and startup was on December 2, 1986. The first gold was poured on January 2, 1987. Full production was achieved in the mill prior to the end of January, 1987.

Approvals to construct the various surface facilities for the handling of wastewater and potable water were issued during 1986. This included the mill and camp facilities, sewage disposal and the drinking water supply line from Star Lake. Blindman Lake, located immediately north of the mill, was approved for dewatering and eventual use as a tailing management facility. To date, all tailings have been contained within this basin and no discharge of mill effluent to the environment has taken place. During 1987, finalization of the operational plans for the Blindman tailings management facility will be completed.

Star Lake was issued Ministerial Approval MA38A on November 13, 1986.

During the fiscal year 12 site inspections were carried out. A total of 26 samples were collected from 8 sites and analyses for over 1,200 parameters.

National Uranium Tailings Program

The National Uranium Tailings Program of the federal Department of Energy, Mines and Resources was initiated in 1983. The five year intensive research program into the long-term management of uranium tailings consists of three components: disposal technology, modelling and measurement.

The objective of the program is to provide a scientifically credible information base that will assist the government regulatory agencies in making decisions with a degree of confidence, and in establishing criteria for the long-term protection of man and his environment.

Saskatchewan Environment and Public Safety provides representatives to the Senior Advisory Review Board and the Technical Advisory Committee to provide technical advice and assistance to the Department of Energy, Mines and Resources on research projects from start to finish.

The National Uranium Tailings Program conducted tailing research at Gunnar, Key Lake and Eldor Mines.

The program is in the latter stages of completion. Final reports should be available by the end of 1987.

Technical Services Section

In early 1986, a Technical Services Section was established to ensure that all specialized technical needs of the branch are provided. Specialized expertise is provided in a wide range of disciplines including: radiation; water quality and aquatic biology; industrial chemistry; hydrology;

contaminant pathway analyses; and environmental engineering.

The section coordinates the review of detailed Environmental Impact Assessments and provides detailed interpretation of technical documents submitted by mining companies and consultants and of technical and policy papers from provincial and federal agencies. Special studies are conducted to address specific needs. The consultative advice provides assistance to the branch's program to control pollution that may arise from mining operations in the province.

Radiation

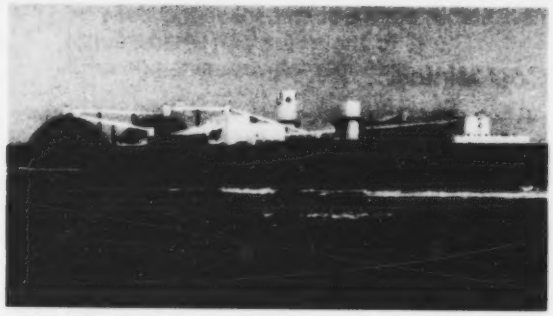
The branch has responsibilities related to protection of the public from natural radiation hazards. Radon gas occurs naturally from radionuclides present in soils and building materials throughout the world. Radon can "build up" in homes to levels that may cause health effects. The section conducted province-wide surveys in communities where higher levels might be expected. The survey results, published in 1985, concluded that no homes surveyed would require "prompt interim remedial action" by Canadian standards. Follow-up surveys are to be conducted during 1987.

Potash/Coal Section

The section administers the Mineral Industry Pollution Regulations as they apply to the potash and coal mines in the province. Compliance with these regulations is ensured through the issuing of Ministerial Approvals for each operation, the submission and review of environmental monitoring reports and by site inspection. These functions were performed by the section for each of the ten potash operations and the five coal mines.

The section has similar responsibilities and performs the same services for sundry other mining operations in the province which, during the year, included a base metal mine, a solution salt mine, a peat mine, a gold placer prospect and a potassium sulphate development.

A total of twenty Ministerial Approvals were issued by the section to mining operations during the year.



A Saskatchewan potash mine.

Potash Mining

Saskatchewan's ten potash mines are licensed under the regulations to store the waste salt and brine generated by the mining and refining activity in approved tailings management areas. Excess volumes of brine may be injected into briny aquifers in very deep strata but no other releases are permitted.

All the mines, in compliance with conditions in their licenses, continued to monitor the effectiveness of their brine containment systems. Past experience has demonstrated some degree of inadequacy in the original containment designs and most mines have now completed or are constructing auxiliary systems to ensure containment.

Brine Inflows in Potash Mines

The inflow of brine at the Potash Company of America (PCA) mine increased steadily during the year despite all efforts to contain it and the mine workings had to be abandoned. The company is considering alternate methods of mining the remaining potash reserves.

After mounting a massive campaign to control the brine flooding into the K-2 mine, International Minerals and Chemical Corporation (IMC) has managed to bring the flood volume down from a

rate of 500 litres per second to its present rate of 60 litres per second.

The brine inflow at the Cominco mine appears to have stabilized at 6 litres per second.

Coal Mining

All five operating coal mines were licensed under the regulations and the quantity and quality of discharge of water were monitored. No particular problems were experience during the year.

Environmental Assessment Branch

R.E. Walker
Director

Objectives

- To have prospective developers fully informed about Saskatchewan's environmental protection policies and regulatory requirements.

- To have all plans for future development activities in or near Saskatchewan fully evaluated as to the acceptability of their likely environmental implications **before** commitments to proceed with those plans are made.

- To have in Saskatchewan a system of reserves which exemplify and protect both unique and typical aspects of the province's natural heritage.

Activities

- Apprise prospective developers of provincial environmental requirements applicable to their development proposals, particularly those requirements under legislation administered by Saskatchewan Environment and Public Safety.

- Administer Saskatchewan's environmental assessment process in accordance with requirements and provisions of the province's Environmental Assessment Act and in so doing:

  - review preliminary development concepts to help prospective developers identify potential environmental and socio-economic problems therewith and define the scope of any assessments which might be necessary to satisfactorily address those problems and produce environmentally sound development plans;

  - review each Environmental Impact Statement (EIS) submitted to the Department by a developer seeking ministerial approval under The Environmental Assessment Act, to ensure that the document provides a technically sound basis for both public evaluation of the proposed development's likely environmental implications and the minister's subsequent decision regarding its approval;

  - facilitate public examination of and comment on each EIS in accordance with the requirements and provisions of The Environmental Assessment Act;

  - recommend to the Minister conditions which he might attach to his approval of each new development to increase the likelihood of its proceeding in an environmentally acceptable manner; and

  - monitor the implementation of plans approved under The Environmental Assessment Act to ensure developers' compliance with the terms and conditions of their approvals, and recommend appropriate action in any case where a developer fails to comply with those terms or conditions.

- Administer Saskatchewan's Ecological Reserves Act, and in co-operation with the Land Protection Branch:

  - identify areas of the province worth of reserve status;

  - arrange for official designation of those areas; and

  - establish conditions under which the reserves are to be managed and protected.

- Represent the Department on interagency and interjurisdictional committees and study teams attending to multidisciplinary environmental matters of importance to Saskatchewan.

Environmental Assessment

In 1986-87 proposals for 47 new development projects were submitted to the Environmental Assessment Branch for formal review through the environmental assessment process. In addition, reviews of 18 proposals from the previous year continued into 1986-87. The status of the various proposals received or under review during the fiscal year was as follows:

Table 8
Projects Requiring an Impact Assessment Undergoing Screening at Year End

Proponent	Project
Bonanza Oil and Gas Ltd.	Gas Wells and Pipelines, Golden Prairie Area
Cigar Lake Mining Corporation	Cigar Lake Test Mine
Cigar Lake Mining Corporation	Permanent Access Road
Cigar Lake Mining Corporation	Waterbury Lake Uranium Development
City of Regina	Waste Management Study
Consumers Co-operative Refinery Ltd.	Propane/Butane Pipeline, Regina
Eldorado Nuclear Ltd.	Rabbit Lake Uranium Development
Kannata Highlands Ltd.	Kannata Valley Subdivision Development
Prairie Coal Ltd.	Willow Bunch Mine Expansion
Redberry Development Corporation	Recreational Subdivision Development, Redberry Lake
Royex Gold Mining Corporation	Jolu Gold Mine Development
R.M. of Hoodoo	Wakaw Lake Weir
Saferco	Ammonia Fertilizer Manufacturing Plant
Sask. Highways and Transportation	Highway 41, Melfort Region
Saskatchewan Power Corporation	Alberta - Saskatchewan 230 kV Interconnection
Saskatchewan Power Corporation	Boundary Dam Supplemental Water Supply
Saskatchewan Power Corporation	1986 Rural Gasification Program
Saskatchewan Power Corporation	Shand Thermal Generating Station
Simpson Timber Company	South Weir Haul Road
Souris Basin Development Authority	Rafferty and Alameda Reservoirs
Weyerhaeuser Canada Ltd.	Cowan Lake Forest Haul Road
Weyerhaeuser Canada Ltd.	McDonnel Forest Haul Road

Table 9
Projects Screened - Impact Assessment Not Required

Proponent	Project
Amok Ltd.	Dominique - Janine Open Pit Mine
BlueSky Oil and Gas Ltd.	Seismic Program, Great Sand Hills
Dome et al.	Carbon Dioxide Plant, Boundary Dam
Ducks Unlimited Canada	Adams Lake Wetland Development Project
Ducks Unlimited Canada	Coulee Lake Wetland Development Project

Table 9 continued

Proponent	Project
Ducks Unlimited Canada	Cummins Wetland Development Project
Ducks Unlimited Canada	DeRoo Slough Wetland Development Project
Ducks Unlimited Canada	Gendall Wetland Development Project
Ducks Unlimited Canada	Horseshoe Lake Wetland Development Project
Ducks Unlimited Canada	Ituna East Wetland Development Project
Ducks Unlimited Canada	Kessler Wetland Development Project
Ducks Unlimited Canada	Maxim-Neptune Wetland Development Project
Ducks Unlimited Canada	Raven Marsh Wetland Development Project
Ducks Unlimited Canada	Robinson Creek Wetland Development Project
Ducks Unlimited Canada	Siisiip Wetland Development Project
Ducks Unlimited Canada	Thatch Creek Wetland Development Project
Ducks Unlimited Canada	Viv Duck Factory Wetland Development Project
Ducks Unlimited Canada	Watertown Wetland Development Project
Ducks Unlimited Canada	Woolard Lake Wetland Development Project
Federation of Sask. Indian Nations	All Season Road, Highway 102 to Grandmother's Bay
Heavy Oil Reclamation Systems Corporation	Waste Oil Processing Plant, Marsden
Mahogany Mineral Resources Inc.	Mallard Lake Test Mine
Mobil Oil Canada Ltd.	Oil Pipeline, Lloydminster Area
Moro Ammonia Services Ltd.	Bulk Fertilizer Plant, Foam Lake
Petro-Canada Resources	Natural Gas Liquids Pipeline
Placer Development Ltd.	Seabee Gold Development Test Mine
Sask. Highways and Transportation	Highway 47 Reconstruction, Phase I
Sask. Highways and Transportation	Mission Hill Spot Improvement
Saskatchewan Power Corporation	72 kV Transmission Line, Debden to Bodmen
Saskatchewan Power Corporation	72 kV Transmission Line, Rapid View to Peerless
Saskatchewan Power Corporation	Swift Current - Cantuar Transmission Line
Saskatchewan Rural Development	Road Construction, Big Gully Valley
Saskatchewan Water Corporation	Luck Lake Irrigation Project
Simplot Chemical Company Ltd.	Fertilizer Facility, Tuxford Area
Simpson Timber Company	Marie Lake Haul Road
Western Corporate Fertilizer Ltd.	Fertilizer Storage and Handling Facility
Wheelabrator Corp. of Canada	Railcar Service Facility Expansion

Table 10
Assessment Process Completed

Proponent	Project
Northern Landfill Inc.	Commercial Landfill
Saskatchewan Power Corporation	115 kV Transmission Line, Uranium City to Wollaston Lake
Weyerhaeuser Canada Ltd.	Prince Albert Paper Mill

Table 11
Projects Deferred or Cancelled

Proponent	Project
Erskine Resources Ltd.	Shale Oil Recovery, Pasqua Hills
McNeil Northern Services Ltd.	Cluff Lake to Fond-du-Lac Haul Road
Proponent Confidential	Proposed Asphalt Plant

In addition to the 65 projects undergoing formal environmental assessment and review, the Environmental Assessment Branch was involved in the review of an additional 358 project referrals. These referrals comprised 102 subdivision applications, 165 referrals from Sask. Water Corporation, 25 proposals related to oil and gas development, 5 proposals related to seismic exploration, 6 proposals related to sand and gravel projects, 22 Treaty Indian Land Claims, 10 forest cutting plans and 23 miscellaneous referrals. Despite the general slow down in oil and gas activity, there was continuing interest in the extensive tracts of environmentally sensitive rangelands in southern and southwestern Saskatchewan. A total of 13 blocks (involving some 52,000 ha.) and 18 smaller parcels of land located in sensitive rangelands and or sand dune habitat were screened in advance of sales of petroleum and natural gas rights.

Committees/Studies

Reclamation

The Environmental Assessment Branch continued to monitor land reclamation at the four coal mines near Estevan and one near Coronach to ensure that guidelines were being followed. An approval process for land reclaimed to standards of the reclamation guidelines is being developed.

Ecological Reserves

One ecological reserve, Assiniboine Slopes, was established in 1986-87. This is an area of 2.9 square miles of land straddling the Assiniboine River 60 km east of Yorkton. The reserve is known for its high level of ecological variety. Work continued toward the designation of more ecological reserves, including Qu'Appelle Coulee, north of Wolseley and a portion of the Athabasca Sand Dunes.

Wetlands Technical Advisory Committee

The Environmental Assessment Branch represents Saskatchewan Environment and Public Safety on the Wetlands Technical Advisory Committee. The purpose of this committee is to review proposals for water development projects which might affect waterways, lakes and wetlands, to resolve any conflicts which may arise among wildlife, fisheries, agricultural and environmental

interests and to encourage development of works which are in the best interest of the Province of Saskatchewan. The committee also includes representatives from the departments of Agriculture, Parks, Recreation and Culture, and the Saskatchewan Water Corporation. Forty-three projects were cleared by the Wetlands Technical Advisory Committee during the 1986-87 fiscal year.

Environmental Guidelines

The branch continued to distribute environmental protection guidelines pertaining to roads, transmission lines, gravel pits, mineral exploration and heavy oil pilot projects. Work was initiated to evaluate the effectiveness of the existing sand and gravel pit guidelines with a view to updating them. Development of guidelines for protection of environmentally sensitive lands, primarily in relation to oil and gas exploration and production, continued. An updated summary of regulations affecting the oil and gas industry was also prepared.

Protection of Environmentally Sensitive Lands

On an ongoing basis, staff of the Environmental Assessment Branch endeavour to identify environmentally sensitive areas, assess their vulnerability to different types of development activity and establish mitigation guidelines for prospective developers to follow in those parts of the province where development is expected to continue or to increase.

In 1985-86, the branch commissioned a study to aid in identification of the most acutely sensitive areas, to recommend operating procedures which would minimize environmental damage in those areas, and to recommend appropriate reclamation procedures. The major branch initiatives in 1986-87 in relation to protection of environmentally sensitive lands were to prepare four sets of guidelines, addressing various stages of oil and gas development. These documents discuss preparation of an Environmental Protection Plan (reviewed as a project proposal), seismic exploration (an updating of the existing guidelines), oil and gas development and reclamation and monitoring. Considerable effort was expended in working with affected oil and gas companies, consultants and other government agencies in developing the guidelines, co-ordinating their review and their implementation in the field on individual projects.

Existing co-operative arrangements were maintained with Saskatchewan Agriculture and Saskatchewan Energy and Mines and other affected government agencies to facilitate environmental review of all development activities proposed for the most sensitive lands.

Research and Special Projects

H.S. Maliepaard
Special Advisor to the Deputy Minister

Canadian Council of Resource and Environment Ministers

The Canadian Council of Resource and Environment Ministers' (CCREM) programs address environmental and renewable resource issues which are common across the country.

The Minister of Environment and Public Safety is the senior member for Saskatchewan on the Council. Several department staff members participate in a variety of programs as requested by the ministers.

A Hazardous Wastes Action Plan was approved and initiated, covering a wide spectrum of activities. A program outline was distributed and a project co-ordinator appointed.

Another important accomplishment was adoption and publication of Canadian Water Quality Guidelines. This is the first time such guidelines have been developed.

A National Task Force on Environment and Economy was formed to recommend ways to integrate environmental considerations into economic development decision making.

A program to develop environmental codes of practice for storage tanks was also initiated. Other activities dealt with water management, improving the pesticide registration process and co-ordination of regulations, research and environmental programs across the country.

Toxicology Research Centre

The Toxicology Research Centre is a joint undertaking of the University of Saskatchewan and the provincial government. The Department of Environment and Public Safety is the lead agency on behalf of the provincial government.

Activities during the year under review related to research on pesticides, environmental toxicology, quality of drinking water and nutritional toxicology and related areas. Again, there were many demands on the services of this Centre.

Nearly 400 requests for information and consultation were received during this fiscal year. In addition, considerable resources were expended in the provision of analytical services and the continued building and expansion of a database.

A major contribution was the publication of the book "You and Toxicology". This book is written in a language that can be understood by lay people and describes principles of toxicology in easily comprehensible language.

The Board of Directors of the Centre established a Task Force to look into the long-term aspects and needs of the Centre. This Task Force has presented a report to the Board which concluded that the Centre should not only continue to exist but has to expand its basis of information as the need arises. This expansion is necessary to meet increased demands on the service of the Centre, to be more regional in character and lastly, to allow for greater participation of the private sector.

The Centre was able to consolidate its activity when they moved in the renovated facilities which were previously occupied by the Saskatchewan Research Council.

Western Canadian Low Sulphur Coal

The Environment Ministers of the three western provinces, Canada and Ontario, established a Task Force to investigate the feasibility of increased utilization in Ontario by low sulphur western coal. This Task Force, of which Saskatchewan was a member, presented its final report and made several conclusions and recommendations.

To Saskatchewan, the key recommendation is that additional efforts and funding should be directed towards upgrading of low sulphur lignite coal in order to favorably compete with higher grade coals of the other western provinces.

As a follow-up to the Task Force report more detailed investigations have been started with Ontario to study its potential for implementation.

Public Safety Division

P.J.H. Sheasby
Executive Director

This division was established upon the transfer of the Technical Safety Services Branch from Saskatchewan Labour.

Mission

To provide safety standards to industry and the general public in the fields of boiler and pressure vessel installations; electrical installations; elevator installations; fire safety; gas installations; building and accessibility standards; and amusement ride safety.

Activities

Activities of the Public Safety Division are concentrated in five branches reporting to the Executive Director:

- Boiler and Pressure Vessel Safety Branch
- Electrical and Elevator Safety Branch
- Fire Commissioner's Branch
- Gas Safety Branch, and
- Building Standards Branch.

Gas Safety Branch

R. Ross
Chief Inspector

Objectives

- To administer the provisions of The Gas Inspection and Licensing Act.
- To provide a high measure of public safety with respect to the manufacture, sale and installation of gas equipment for consumers and the licensing of fitters and contractors who are engaged in the work of gas installation.

Activities

- Inspect new installations and alterations, replacements or additions made to existing installations with priority given to the more hazardous.
- Re-inspect existing installations in domestic dwellings and in public and high occupancy buildings.
- License contractors, employers and tradespersons making installations; suppliers of consumer equipment; bulk propane dispensing plants and propane cylinder dealers.
- Examine gas appliances and equipment stocked for distribution within the province and may field test one-of-a-kind gas fired units not specifically covered by an authorized national standard.

Legislation and Regulations

The Gas Safety Branch administers The Gas Inspection and Licensing Act and Regulations thereunder. During the year under review, no new legislation was introduced.

Standards and Specifications

Under the auspices of the Canadian Gas Association and direction of the Interprovincial Gas Advisory Council work continues on the upgrading and development of standards for the manufacture and testing of consumer equipment and specific appliances. Three national authorities accredited by the Standards Council of Canada test to standards, and each provides a distinctive labelling service on appliances and equipment meeting specifications contained in authorized standards.

Certification, testing and labelling services acceptable to the province are those of the Canadian Standards Association, the Canadian Gas Association, and Underwriter's Laboratories of Canada. Each authority upon demand makes available to the branch confidential copies of test reports. To ensure maintenance of engineering and production standards, examinations of appliances and equipment are conducted by certification organization technicians at the production line level. Supply house, retail outlet and field observations are made by the branch inspectors.

Defects and unauthorized changes found on new production, stocked or installed equipment are ordered rectified by the manufacturers who persist in violating terms of manufacture, certification listing and product labelling contracts.

Safety Program

Following established practice, field staff were actively engaged in development areas advising contractors, instructing tradespeople and participating at rural gasification program meetings, at which the inspector would invite and reply to public and contractor inquiry, acquaint consumers with the functions of the branch, and outline the principal requirements for safe, efficient gas utilization.

Natural and Propane Gas Consumers

As of March 31, 1987, approximately 295,000 consumers were connected to the Saskatchewan Power Corporation's natural gas distribution systems and an estimated 42,000 propane consumers were supplied by independent propane utilities.

Inspections

For the purpose of inspections, the province is divided into nine districts with offices in Regina, Moose Jaw, Swift Current, Saskatoon, North Battleford, Humboldt, Estevan and Yorkton. Six inspectors, the Assistant Chief and the Chief are assigned to Regina and its five sub-districts; three inspectors and one senior inspector are assigned to Saskatoon; two in North Battleford and one each in the remaining cities.

New domestic installations made in cities and rural areas receive a first inspection from the utility which consists of visual inspection of equipment and a pressure test of the gas piping. The utility sets the meter and activates the equipment if deemed to be safe.

The Gas Safety Branch completes the follow-up or final inspection, this is a detailed operational checkout of appliances, safety controls, venting, and fire prevention clearances. A check to ensure the equipment is approved is done on this inspection.

When installations fail to conform to provincial minimum standards, inspectors list the deficiencies requiring correction. Immediate hazards are reported to contractors orally or by telephone, followed by a notification in writing stating the period of time in which corrections must be made.

Branch inspectors also attend the initial turn-on and test firing of commercial and industrial gas fired boilers and equipment with an input in excess of 1,000,000 b.t.u. per hour.

In total, 6,502 written notices requesting correction or removal of hazards to life, health or property were issued on new installations and a similar number of correction orders listing lesser hazards were left with owners of existing installations.

Immediate hazards to life, health and property necessitate follow-up inspection. Lesser hazards are spot checked to determine the extent of corrective compliance.

Accidents

Gas related accidents resulting in persons being hospitalized due to carbon monoxide poisoning, fire and explosions were investigated by the Gas Safety Branch.

Recourse to Bonds

Sureties were called upon to complete the work of several delinquent contractors and to correct installation defects left in suspense by business failures. Corrections were made without additional cost to consumers.

Re-inspections

Re-inspection of residential and high occupancy buildings continues. A total of 8,000 re-inspections were made and 40 percent of these revealed hazardous or clean up conditions on which 3,200 correction orders were issued.

Re-inspections indicate a need for continuing education in the field of equipment maintenance and servicing. The program provides opportunity to evaluate equipment and bring to light that which is prone to failure or potentially hazardous. Consumers were encouraged to have their equipment checked and serviced by a qualified licensed gas contractor on an annual basis through the distribution of brochures to all natural gas consumers through personal advice provided.

Table 12
Number of Inspections by Type of Inspection

Type of Inspection	1985-86	1986-87
First meter sets and finals (leak test prior to meter set and acceptance test)	14,348	13,966
Additions (new and used appliances)	2,812	3,038
Re-inspections - domestic and high occupancy	6,968	8,000
Temporary heating - new construction	1,124	1,828
Replacements (defective appliances)	8,347	8,902
Piping alterations and ground gaslines	2,126	3,075
Investigation and special inspections	336	173
Trouble calls - smoke and sulphur tests, defect re-inspection	12,818	12,940
Propane storage and dispensing plant inspection	299	207
Calls on contractors and not home cards	8,505	12,286
TOTAL	57,683	64,415
Defects Issued	2,370	2,780
Defects Cleared	3,981	3,722

Public Safety

In light of numerous failures of prefabricated metal chimneys discovered by inspectors, the Gas Safety Branch issued releases to the news media warning consumers of potential hazards. Several television interviews were made in the interest of public safety.

Licensing

Under the provisions of The Gas Inspection and Licensing Act, propane bulk storage and cylinder filling plant operators, installation contractors, employers, fitters and wholesale suppliers of gas appliances and equipment are required to hold a license. Licenses are issued on a one year basis or for a term not exceeding five years to individuals or companies who comply with the conditions of licensing set forth in the Act and Regulations made thereunder.

The number of licenses in effect during the 1985-86 and 1986-87 fiscal years is as shown on Table 13.

Table 13
Licenses in Effect under The Gas Inspection and Licensing Act

Type of Licence	1985-86	1986-87
Domestic gas fitter	990	871
General gas fitter	1,061	962
Domestic gas contractor	242	257
General gas contractor	350	354
Limited gas contractor	81	59
Gas supply house	17	19
Employers	56	56
Propane bulk filling plants	299	327
TOTAL	3,096	2,905

Electrical and Elevator Safety Branch

J. Chin
Chief Inspector

Objectives

- To administer the provisions of The Electrical Inspection and Licensing Act, 1981, The Passenger and Freight Elevator Act, and The Amusement Ride Safety Act.
- To provide a high measure of public safety with respect to electrical wiring, the sale and installation of electrical apparatus and material, and the sale and installation of elevators, and licensing of persons engaged in electrical and elevator installation.

Activities

- Examine new electrical installations, equipment, and alterations and additions made thereto.
- Re-inspect certain existing electrical installations.
- Examine all electrical equipment intended for distribution in the province.
- Inspect all passenger and freight elevators intended for use in the province.
- License contractors, employers and tradesmen making electrical installations, suppliers of electrical equipment, and, all elevators and elevator contractors.
- Inspects amusement rides.

Legislation and Regulations

The Electrical Inspection and Licensing Act, 1981, The Passenger and Freight Elevator Act, and The Amusement Ride Safety Act, all provide authority for the making of regulations.

Electrical Inspections

For the purpose of conducting electrical inspections, the province is divided in 13 rural districts and 2 city districts, namely Regina and Saskatoon. Electrical inspectors for rural districts, not in the immediate vicinity of these two cities, are located in North Battleford, Moose Jaw, Prince Albert, Tisdale, Yorkton, Swift Current and Estevan.

Under the provisions of The Electrical Inspection and Licensing Act, 1981, permits must be obtained for all new electrical installations, additions and alterations on consumer property, and lightning rod installations.

During the year under review, 2,701 permits for very minor installations were cleared without inspection. The inspection time saved through this policy was diverted to planned re-inspection of existing high-occupancy buildings and to responding to the increasing demand for information from the public and tradesmen.

In incorporated cities, sampling inspections were made before electrical wiring was covered; and on all but very minor installations, inspections were made upon completion. In other areas, inspections were deferred until after the installation had been completed, except for larger installations, which require scheduled visits.

If inspections reveal non-conformance to the Act or regulations thereunder, the contractor is required to make the necessary alterations within a specified time. The same procedure is followed with respect to sub-standard lightning rod installations. Existing installations are re-inspected upon requests made by fire departments, insurance companies, utilities or contractors, and by individuals concerned about safety of wiring. Owners of installations constituting a potential hazard are required to bring such installations up to standard within a specified time, which varies depending on the degree of hazard involved.

Upon examination of 22,686 installations during the period under review, 3,514 notices were issued requesting contractors or owners to remove hazards from defective installations. Of these defect notices, 563 were issued in connection with old, existing installations.

Licensing

The contractor, employer and journeyman making electrical installations, and every person engaged in the business of a supply house must hold an appropriate license as specified in The Electrical Inspection and Licensing Act, 1981.

The license indicates the qualifications of the holder and is used as a means of control in enforcing the Act and regulations thereunder. Table 14 shows the number of licenses issued to contractors, employers, journeymen and operators of supply houses, under the authority of the Act during the fiscal years 1985-86 and 1986-87.

Table 14
Licenses Issued Under The Electrical Inspection and Licensing Act, 1981

Type of License	1985-86	1986-87
Contractor	540	661
Full - one-year	240	256
Full - five-year	201	204
Restricted - one-year	7	10
Restricted - five-year	5	13
Limited - one-year	86	77
Restricted - Lightning Rod - one year	1	1
Employer	111	132
Journeyman	1,406	733
General	1,365	692
Restricted	37	41
Temporary	4	—
Supply House	26	26
TOTAL	2,083	1,552

Plan and Equipment Approvals

During the year under review, plans and equipment approvals for 198 institutional and industrial projects were reviewed and approved or commented on. There were 314 special acceptances of equipment of special design, after inspection and testing by staff of the branch.

Prosecutions

No charges were laid during the year under review.

Elevator Inspections

For the purpose of conducting elevator inspections the province is divided into two areas, with inspectors located in Regina and Saskatoon.

The Passenger and Freight Elevator Act and Regulations made thereunder, provide for periodic inspection of passenger and freight elevators in the province and for the annual licensing of elevators and elevator contractors. They require, further, that plans and specifications of new installations be submitted to the unit for approval and registration.

During the year under review, the branch made 1,578 routine elevator reinspections, 74 acceptance inspections and 80 special inspections. Special inspections are those made for insurance companies, those made for purposes of approving major changes in installations and those required to determine whether equipment falls under jurisdiction of the Act, whereas acceptance inspections are those done on new installations before they are permitted to be placed in service.

Licensing

Table 15 shows the number of annual licenses issued during the years 1985-86 and 1986-87.

Table 15
Licenses Issued Under The Passenger and Freight Elevator Act

Type of License	1985-86	1986-87
Passenger Elevator	1,074	1,125
Freight Elevator	217	212
Hand-power freight	15	15
Hydraulic freight	72	74
Electric dumbwaiter	153	157
Handicapped lift	110	117
Manlift	54	54
Escalator	20*	20**
Workman's hoist	—	—
Chair lift	1	1
T-Bar	12	13
Rope Tow	27	28
Elevator Contractor's - Class "A"	7	8
- Class "B"	17	17
- Class "C"	—	1
TOTAL	1,779	1,842

Note: * Licenses issued cover 47 escalators
** Licenses issued cover 48 escalators

Table 16

Approvals and Registrations Issued Under The Passenger and Freight Elevator Act

Type of Installation	1985-86	1986-87
Passenger Elevator	53	71
Freight Elevator	3	3
Dumbwaiter	3	3
Handicapped Lift	20	18
Manlift	1	—
Escalator	—	3
Workman's Hoist	—	—
T-Bar	—	1
Rope Tow	5	1
TOTAL	85	100

New Installations

During the period under review, 100 specifications for new installations and major alterations were approved and registered, as shown in Table 16.

Prosecutions

There were no prosecutions for offenses under The Passenger and Freight Elevator Act and Regulations thereunder during the year under review.

Amusement Ride Inspections

For the purpose of conducting inspections of amusement rides the province is divided into two areas, with inspectors located in Regina and Saskatoon.

The Amusement Ride Safety Act, enacted in July, 1986, governs the safe operation of amusement rides in the province. Under the provisions of the Act, every owner or manager of an amusement ride, their operators and employees, as well as passengers of the ride, must meet safety regulations before operating the ride.

Shortly after the proclamation of the Act, the branch hired an amusement ride inspector on contract and placed elevator inspectors under him for basic training on amusement ride safety inspection. The branch later sent elevator inspectors to Wichita, Kansas, for further training.

Under the supervision of the hired inspector, 55 amusement rides throughout the province were inspected and one correction notice was issued to an amusement park owner.

Licensing

As the regulations were being developed by the branch, no licenses, registration certificates, and certificates of inspection pertaining to amusement rides were issued.

Plans and Equipment Approvals

During the year under review, no plans or equipment pertaining to amusement rides were received or approved.

Prosecutions

No charges were laid during the year under review.

Boiler and Pressure Vessel Safety Branch

N. Surtees
Chief Inspector

Objectives

- To administer the provisions of The Boiler and Pressure Vessel Act.
- To establish and enforce minimum safety standards with respect to the design, construction, installation, operation and maintenance of both high and low pressure boilers, pressure vessels of all types, pressure plants and other related hazardous equipment.

Activities

- Inspect all pressure vessels and boilers used in the province.
- Inspect all new designs of boilers, pressure vessels and related equipment prior to installation.
- Examine and license all power engineers, refrigeration engineers, refrigeration plant operators, firemen and pressure welders who will be operating or repairing equipment in the province.

Legislation and Regulations

The Boiler and Pressure Vessel Safety Branch administers The Boiler and Pressure Vessel Act and Regulations made thereunder. During the year The Boiler and Pressure Vessel Act and several of the Regulations have been under review, but are yet to be finalized.

In the interest of uniformity of safety standards throughout Canada, the following codes and specifications have been adopted by order-in-council and are administered as part of the Regulations under The Boiler and Pressure Vessel Act:

(a) C.S.A. Code B51;
(b) C.S.A. Code B52;
(c) A.N.S.I. Code for pressure piping;
(d) A.S.M.E. Code for boilers, pressure vessels and pressure welding, sections one to eleven inclusive;
(e) Department of Transport specifications for construction and testing of liquified propane portable cylinders.

Inspections

The Boiler and Pressure Vessel Act provides for periodic inspections of all high pressure boilers in power plants, low pressure boilers in heating plants and all the other pressure vessels and pressure plants used in connection with air, hot water, steam, oil, liquified propane, compressed gas or for refrigeration purposes. It also provides for shop inspection of all pressure vessel construction performed in manufacturing plants.

Ultrasonic thickness testing on boiler tubes.

During the year under review, inspectors made a total of 9,501 inspections. Included in this total were inspections of 403 new boilers, 1,029 pressure vessel and 74 refrigeration plants which were installed in the province. Of these, 263 were manufactured in the province and were shop-inspected by inspectors during construction.

During the fiscal year, 14 new sites were reviewed and licensed for the storage and distribution of anhydrous ammonia.

Inspectors also reset and sealed 620 safety valves, mostly used on oilfield vessels. Three vessels not stamped previously with the registration number were stamped by inspectors.

A total of 1,942 improvement orders, or recommendations pertaining to improper or hazardous conditions were made by branch inspectors in accordance with The Boiler and Pressure Vessel Act, and Regulations thereunder.

Under contract arrangements with Public Works Canada, 306 inspections were made under that department's Safety Code.

The number of inspections under The Boiler and Pressure Vessel Act during 1985-86 and 1986-87 are shown below in Table 17.

Table 17
Number of Inspections under The Boiler and Pressure Vessel Act

Type of Inspection	1985-86	1986-87
Boilers	5,722	5,327
Pressure Vessels	3,948	3,523
Refrigeration Plants	422	651
Anhydrous Ammonia Storage and Distribution Facilities	137	151
TOTAL	10,092	9,501

Approval and Registration of Design

As provided in the Regulations under The Boiler and Pressure Vessel Act, design drawings and complete specifications of every new design of a boiler, pressure vessel or fitting to be used in connection therewith, for use in the province, must be submitted to the office of the chief inspector for approval and registration before construction may legally commence.

During the year under review, 1,027 new designs were received and checked for compliance with the various regulations in force and the engineering codes adopted. Of these 916 were registered and 111 were rejected. These numbers include 151 welding procedures, some of which were single units, but most of which were multiple groups.

Engineers' and Fireman's Qualifications

Every engineer or fireman responsible for the operation of a high pressure boiler, a low pressure boiler of 300 or more kilowatts, a steam plant, or refrigeration plant, must hold a certificate of an appropriate class, as specified in The Boiler and Pressure Vessel Act. Such certificates are issued to persons who have the necessary qualifications and pass an examination.

All permanent certificates are valid for as long as they continue to be registered annually with the branch. Temporary certificates are valid for one year from the date of issue and may be renewed without examination, if application for renewal is made in accordance with the regulations.

Under Section 29 of The Boiler and Pressure Vessel Act, the chief inspector may, in exceptional circumstances, issue a permit for a limited period of time authorizing the operation of a steam plant by a person holding a certificate one class lower than the appropriate class.

The following table shows certificates issued in each classification and the number of examination papers written in 1986.

Table 18
Engineers' and Fireman's Qualification, Calendar Year, 1986

Type of Certificate of Examination	Examination Papers Written	Certificates Issued	Annual Registrations
First Class	69	9	160
Second Class	123	10	300
Third Class	258	37	432
Fourth Class	364	195 *	890
Fifth Class	75	64	595
Heating Plant Engineer's	—	—	8
Refrigeration Engineer's	61	55	550
Permanent Certificates	**950**	**370**	**2,995**
Provisional	—	—	
Special Provisional	25	254	
Fireman's	535	4,059	
Refrigeration Operator's	98	431	
Temporary Certificates	**658**	**4,921**	
Thirty-day permits	—	41	
Ninety-day permits	—	136	

Note: The above totals include the following certificates issued on an exchange with other provinces:

2 First Class certificates
4 Second Class certificates
4 Third Class certificates
13 Fourth Class certificates
* Includes one duplicate

Pressure Welding Qualifications

Welding regulations under The Boiler and Pressure Vessel Act, provide that any pressure welding on a boiler, pressure vessel, pressure piping, or pressure plant may be done only by persons authorized by the Boiler and Pressure Vessel Safety Branch.

Welding authorizations are issued to persons who have passed a welder's qualification test, supervised by an inspector appointed under The Boiler and Pressure Vessel Act. They are renewable eighteen months from the test date, subject to testing.

The number of welding qualification tests conducted during the 1985-86 and 1986-87 fiscal years are shown below in Table 19.

Table 19
Welding Qualification Tests

Type of Test	1985-86	1986-87
Qualification tests (each for four positions)	699	683
Pipeline and other special tests	223	199
Total Tests	922	882

Accidents

During the past year, five accidents were reported and investigated. Investigation revealed these accidents were caused by malfunction of designed safety fittings possibly combined with human error.

Fire Commissioner's Branch

M.G.G. Fisher
Fire Commissioner

Objectives

- To administer The Fire Prevention Act, 1980.
- To provide a high measure of public safety from fire.
- To minimize property loss as a result of fire.

Activities

- Foster fire prevention.
- Collect and disseminate information regarding fires in the province.
- Investigate or hold inquiries into any fire, where considered necessary or to ascertain cause, origin and circumstances.
- Inspect buildings or premises and order remedy or removal of conditions likely to cause fires.
- Provide training in firefighting and fire prevention.
- Authorize and/or undertake surveys and make recommendations respecting fire equipment and fire protection and provide assistance to other government departments, municipalities, industry, organizations, business committees and individuals with respect to fire safety measures.
- Examine plans and specifications for public and other buildings as required by regulations.

The Annual Report of the Fire Commissioner is published separately, based on the same fiscal year as is this report. It contains more detailed information on the activities of the Fire Commissioner's Branch, the causes of fires and the extent of fire loss in Saskatchewan.

Legislation and Regulations

The Fire Commissioner's Branch enforces The Fire Prevention Act, 1980 with general provisions applying to all property and the regulations enacted thereunder.

In addition, the branch enforces those regulations with respect to fire prevention adopted under The Housing and Special-Care Homes Act, assists in the enforcement of municipal fire prevention bylaws and provides consultation and assistance for government projects and projects receiving government grants.

Inspections

The province is divided into nine inspection districts. Fire prevention officers are based in North Battleford, Prince Albert, Regina, Saskatoon, Swift Current and Yorkton. The Estevan, Moose Jaw and Weyburn districts are serviced by inspectors based in Regina. Of the seven inspectors based in Regina, four conduct the fire training program.

Inspectors (fire prevention officers) of the Fire Commissioner's Branch carried out an inspection program in 1986-87 in various classes of buildings with the exception of dwellings, where inspections were made only as a result of a complaint or obvious hazard. Inspection of dwellings by local authorities is encouraged so the branch can minimize the large inspection staff which would otherwise be required for this activity. Hospitals, institutional buildings, schools and other places of public assembly were inspected in the interest of fire safety and evacuation procedures.

Routine inspections were conducted during the fiscal year in 331 towns, villages and hamlets.

In urban municipalities with paid fire departments, The Fire Prevention Act, 1980, provides authority to assign responsibility for inspections.

During the period under review, branch fire prevention officers made 5,432 inspections excluding oil burner inspections, which are mentioned elsewhere in this report. Of this number, 1,195 were special inspections and 783 were re-inspection follow-ups on previous orders.

A total of 861 orders to remedy certain conditions within specified periods of time were issued.

Inspections and improvement orders are shown in Table 20 according to classification of the property inspected.

Table 20
Inspection and Improvement Orders by Property Classification

Class of Property	Inspection (calls)	Improvement Orders Issued
Agriplexes	7	—
Amusement Centres (arcades)	—	—
Ball Parks	6	—
Bowling Alleys	12	—
Change Houses	3	—
Churches	579	26
Clubs	37	3
Court Rooms	1	—
Day Care Centres	12	—
Funeral Homes	1	—
Halls	545	83
Libraries	17	—
Licensed Dining Rooms	2	—
Museums	22	—
Pool Rooms	3	—
Restaurants (cafes)	130	15
Rinks	577	110
Senior Citizen Centres	132	10
Schools (sheltered workshops, activity centres)	571	169
Swimming Pools	25	5
Theatres	8	1
Undertaking Premises	—	—
Assembly	**2,690**	**422**
Correction Centres	24	2
Hospitals	134	17
Hostels	3	1
Jails	—	—
Nursing Homes	166	16
Rehabilitation Centres	1	2
Institutional	**328**	**38**
Apartments	204	58
Approved Homes	62	—
Cabins	—	—

Table 20 continued

Group Homes	19	—
Houses	58	3
Hotels	430	148
Lodging Houses	12	—
Mobile Homes	1	—
Motels	84	19
Summer Camp Buildings	58	1
Residential	**965**	**238**
Banks (Credit Unions)	16	—
Barber and Hairdressing Shops	—	—
Clinics (Medical and Veterinary)	13	2
Health Spas	2	—
Laundromats and Drycleaners	2	—
Offices	283	5
Radio Stations	—	—
Business	**316**	**7**
Car Washes	—	—
Department Stores	1	—
Exhibition Halls	1	1
Shops	9	—
Stores	96	—
Supermarkets	17	—
Mercantile	**124**	**1**
Above and underground tanks	143	62
Aircraft hangers	2	—
Auto body shops	13	1
Bakeries	3	—
Bulk oil plants (propane)	307	67
Cold storage plants	1	—
Concrete plants	—	—
Creameries and dairies	—	—
Factories	8	—
Fertilizer buildings	4	—
Fire stations	96	1
Hatcheries	1	—
Lumber yards	4	—
Machine shops (metal, welding)	9	—
Meat packers	3	—
Mills	1	—
Oil field supplies	2	—
Plumbing and heating shops	—	—
Power houses	1	—
Printing shops	—	—
Pump houses	24	—
Repair garages (implements)	164	7
Service stations	120	13
Storage garages and rooms	18	2

Table 20 continued

Upholstery shops	—	—
Warehouses (storage sheds)	69	2
Water treatment plants	9	—
Well drilling	—	—
Woodworking factories (shops)	—	—
Workshops	7	—
Industrial	**1,009**	**155**
TOTAL	**5,432**	**861**

Plans and Specifications

During the fiscal year, 1,380 plans and specifications for new buildings, or additions to existing buildings, were reviewed. Of these, 401 were approved with minor provisions and 833 were approved subject to alterations. Approval was not given in 145 examinations, either because of requirements for major redesign or because the review was only advisory. The above figures do not include sketches and drawings which were reviewed in consultation with architects and other interested persons previous to the preparation of preliminary and/or final drawings.

As in previous years, plans required to be submitted were examined for compliance with The Flammable Liquids Regulations, The Hotel Regulations, The Hospital Fire Regulations, The Regulations Governing Fire Safety in Educational Buildings, The Regulations Governing Installation of Automatic Sprinkler Systems, and pertinent sections of the Regulations under The Housing and Special-Care Homes Act.

In examining plans submitted for government buildings and plans voluntarily submitted for structures such as churches, lodge rooms, and dry cleaning plants, the Fire Commissioner's Branch continued to apply the National Building Code of Canada as widely as possible. Codes of the National Fire Prevention Association and other standards of good practice are also used for this purpose.

Reviewing plans for compliance with codes and regulations.

The following table shows the number of plans and specifications reviewed since 1984-85.

Table 21
Plans and Specifications Reviewed by Disposition

Disposition	1984-85	1985-86	1986-87
Approved	539	401	401
Approved subject to alteration	783	698	883
Rejected or Pending	127	100	145
TOTAL	1,449	1,199	1,380

Fire Investigation

During 1986, 1,213 investigation reports were submitted by police and the Fire Commissioner's staff. Fire Commissioner's staff participated in 122 investigations including cases in which arson was suspected, and cases in which, for fire prevention reasons, it would be in the public's interest to determine the cause of the fire. While fire prevention officers made a number of investigations unassisted, they frequently aided law enforcement officers in determining the cause of the fire, whether accidental or intentional in origin. The results and disposition of the Fire Crime Report investigations are illustrated in Table 22. It should be noted that all fires reported are investigated for cause, origin and circumstance by either the Local Assistant to the Fire Commissioner (secretary-treasurer, fire chiefs and their staff) or police, insurance agencies, special investigation units, the Fire Commissioner's Branch staff or a combination of these forces.

Table 22

Results and Disposition of Fire Crime Report Investigations, 1986

Disposition	Number
Total reported arson	304
Unfounded arson investigations	32
Actual number	272
Offenses cleared by charge	46
Offenses cleared otherwise	38
Persons charge	
Adults	41
Juveniles	11
Not charged	24

Fire Record

Under the provisions of The Fire Prevention Act, 1980 the Fire Commissioner is required to maintain a record of fires occurring in the province, including facts relating to origin and circumstances, as determined by Fire Commissioner's Branch investigations, reports of fire chiefs, insurance adjusters and police. Data contained in reports of fires are summarized in the Annual Report of the Fire Commissioner.

A total of 2,720 fires were reported in 1986. Electricity was the largest single cause of fire, accounting for 706 fires - 26 per cent of the total number of fires. Other leading causes were: coal or wood (15.7 per cent - 427 fires), flammable liquids (12.3 per cent - 334 fires), and smoker's materials (10.6 per cent - 289 fires).

The property loss for 1986 was $23,870,962. Fire in one and two family dwellings continued to be highest in number in 1986, 22.87 per cent of all fires reported were in dwellings. This represents a total of 622 fires with property loss of $7,358,690 - 30.83% of 1986 dollar loss.

The number of lives lost in fires in Saskatchewan was the same in 1986 as in 1985, 21 persons (17 men, 4 women and 0 children) lost their lives in fire.

Oil Burners

The Fire Prevention Act, 1980 and Regulations thereunder require that distributors and wholesalers of oil burners obtain an annual license, and that firms or persons installing and servicing oil-burning equipment take out an annual or quinquennial license, as authorized by the Fire Commissioner, for such work. The number of licenses and number of oil burner installation permits issued during the fiscal year ended March 31, 1987, are shown in Table 23.

During the 1986-87 fiscal year, 111 oil burner inspections were made.

Table 23

Oil Burner Licenses and Permits Issued Under The Fire Prevention Act, 1980

Type of License or Permit	1986-87
Wholesalers or manufacturers (annual)	8
Installers (annual)	22
Installers (quinquennial)	41
Total oil burner licenses	**71**
Total oil burner permits (annual)	10

Fire Prevention

During the year under review, fire prevention and fire training films were widely distributed throughout the province. These films were used by schools, fire departments and various organizations. These films are maintained in the library of Educational Media Services, Saskatchewan Education, and bookings for such films can be made through them.

The Fire Commissioner's Branch continued to advise municipal councils and fire departments on fire protection requirements. A total of 184 fire departments surveys were made during the year. Inspectors advised institutions, hospitals and hotels on fire emergency programs, fire exit drills and other safety matters. The fire prevention education program is summarized in Table 24.

Table 24

Selected Activities in Fire Prevention Education

Selected Activities	Number of Meetings	Attendance
Public meetings	12	544
School lectures	138	13,729
Other lectures and demonstrations	22	790
Film showings	441	17,646
Fire department conferences	22	163
Municipal council conferences	12	159
Meetings with school board	21	140
Meetings with fire chiefs	49	—
Court cases	16	—
School fire drills	43	8,088
Building/design consultants	140	—
Learn Not to Burn In-Service Programs	40	371

Note: Attendance figures are not recorded for all activities.

Fire Prevention Week

In 1986, the week of October 5 to 11 was designated as Fire Prevention Week and was emphasized by means of lectures to school children, distribution of films, special fire prevention literature, news releases and special messages from both the Minister-in-Charge of The Fire Prevention Act, 1980, and the Fire Commissioner.

The Fire Commissioner's Branch again sponsored the Annual Fire Prevention Poster Competition for public and high schools. Thirty cash awards were

provided. The competition was divided into eight groups, covering Grades 1 to 12 in four divisions for city and rural school categories. A total of 3,800 entries were received. Winners of the contest were notified of their awards by the Minister-in-Charge of The Fire Prevention Act, 1980. The awards were made public through the media.

Learn Not to Burn

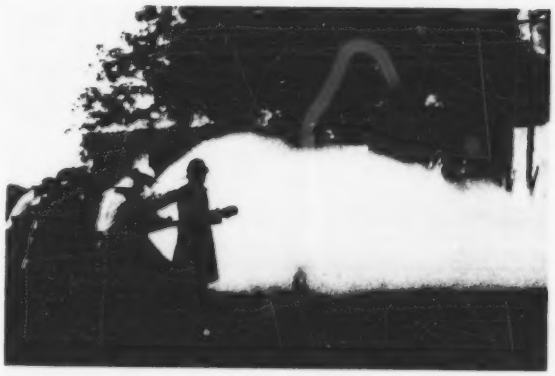
Because of budget limitations, the special safety promotion introduced in 1984 was discontinued but was replaced with the Learn Not to Burn Curriculum Program from the National Fire Protection Association. The Learn Not to Burn Curriculum will be integrated into educational material, so teachers can include fire prevention topics that teach children how to prevent fires, to protect themselves and others from fire and to persuade others to be more fire safe. This curriculum integrates 25 key fire safety behaviours into the regular subject areas taught in classrooms. Specific educational objectives in teaching format are included with each behaviour. Evaluation tools, reference materials, background information about fire safety and extra handouts, are all included in the curriculum books.

The Fire Commissioner's Branch has now completed two years of a three year project to provide at least one set of Learn Not to Burn Curriculum books for each elementary school in the province. A set consists of three books, Level I for grades Kindergarten to two, Level II for grades three to five and Level III for grades six to eight.

As well as providing sets of books the branch has started to give in-service seminars for teachers, to explain the Learn Not to Burn Curriculum.

Firefighter's Training and Fire Prevention Program

During the fiscal year, training schools for volunteer firefighters were conducted in 64 towns and villages and the first Self-Contained Breathing Apparatus Course Modules were delivered to 3 paid fire departments. Of the 1,151 registrants at these schools, 1,089 student firemen completed the training courses and received certificates. As well as the volunteer training courses and modules on Self-Contained Breathing Apparatus, the first modules in Fire Behaviour and Ventilation were given to Melville, Viscount, McLean, Rockglen, Morse and Ceylon.



Training session with volunteer firefighters.

The training staff also conducted fire emergency training at 80 hospitals and nursing homes.

Building Standards Branch

L. Harmsworth
Chief Inspector

Objectives

- To provide minimum safety standards for the public with respect to the design, construction, use and occupancy of buildings.
- To provide standards that will ensure that an appropriate range of buildings will be accessible to persons with physical disabilities.
- To administer the provisions of The Uniform Buildings and Accessibility Standards Act.

Activities

- Establish and enforce minimum safety standards with respect to the construction and occupancy of buildings.
- Provide requirements that will ensure that new buildings will be accessible to persons with physical disabilities.

Legislation and Regulations

The Building Standards Branch developed proposals for regulations to adopt the National Building Code of Canada and to provide accessibility to buildings for persons with physical disabilities. During the process, submissions from the public on the proposed regulations were given consideration and, where considered appropriate and timely, incorporated in the proposals.

A review of the remaining administrative sections of The Uniform Building and Accessibility Standards Act necessary for implementation of the proposed regulations was also carried out.

The Building Standards Branch also conducted a review of the proposed 1990 edition of the National Building Code of Canada and after consultation with other interested branches, submitted a number of comments and recommendations to the Associate Committee on the National Building Code.

Saskatchewan Emergency Measures Organization

M.G. Hegan
Executive Director

A.T. Auser
Director

Objectives

- To develop an effective emergency response structure at both the provincial and municipal levels of government to ensure the survival and recovery of our citizens and communities from any peacetime emergency or disaster.
- To enhance the national capability to respond to any national emergency.

Activities

- Ensure all departments and agencies develop a response capability for meeting their own emergencies as well as providing assistance to municipalities and other departments as required.
- Encourage and assist municipalities with emergency planning, training and exercises to provide a greater capability to respond to emergencies.
- Encourage development of Mutual Aid Areas so all resources in an area can be brought to bear on any emergency.
- Develop programs to ensure the government will be able to continue normal or near normal operations during a major emergency or disaster.
- Utilize federal funding available under the Joint Emergency Planning Program to further the development of emergency planning in Saskatchewan.
- Develop and conduct training programs to meet the emergency planning needs of departments, agencies and municipalities.

Provincial Emergency Preparedness

Cabinet approval was given to the Cabinet Directive which outlined the emergency planning responsibilities of government departments and Crown Corporations. All Emergency Planning Officers and their alternates have been named and made aware of their particular departmental responsibilities. Several have attended our provincial training courses at Fort San as well as the appropriate courses at the Emergency Preparedness College, Arnprior, Ontario.

Eleven provincial emergency planning districts have been established and in each district a District Planning Committee will be formed, consisting of a senior staff member of each department and agency represented in that district. This committee will provide the provincial response to any emergency or disaster occurring in that particular district. A training program will be developed to meet the needs of departments and agencies. General and specialist courses and seminars will be made available throughout the province. Appropriate provincial personnel will be selected to attend federal emergency planning courses.

Emergency planning has been promoted through participation in the annual conferences of the Saskatchewan Urban Municipalities Association; the Saskatchewan Association of Rural Municipalities, Provincial Association of Fire Chiefs and the Saskatchewan Emergency Planners Association. Invitations were also accepted to participate in departmental staff meetings to outline the goals and objectives of emergency planning in Saskatchewan.

Municipal Emergency Preparedness

The main thrust of our emergency planning program in 1986-87 was directed at the municipal level. Through the efforts of the two municipal consultants, a great deal of progress was achieved. Continuous contact was maintained through visits, letters, phone calls, training sessions, etc. which resulted in the following:

- Approximately 50 Emergency Measures Organizations were established, including both urban and rural.

- The majority of new Emergency Measures Organizations were organized into 17 Mutual Aid Areas with the remainder being in the process of negotiating for such a formation.

The following courses and conferences were conducted for provincial and municipal candidates - two orientation courses, one health conference, one health course, one co-ordinators conference and one municipal officials course. Total attendance was approximately 600. The response to most of the courses was so positive that we were unable to accommodate all the applicants.

Three municipal paper exercises and one full scale Mutual Aid exercise were held.

Municipal candidates took full advantage of the training courses at Arnprior, Ontario.

Continuity of Government Program

Negotiations continued in 1986-87 for joint federal-provincial funding of a dual purpose Training Facility to ensure the continuity of government during and following any major emergency or disaster.

This dual purpose facility would be used for emergency response training by various departments and agencies under normal conditions, but could be quickly converted to function as an Emergency Operating Centre in an emergency. It would be established with reliable communications and other support systems for use of the Minister of the Government and/or their representatives during disasters. In conjunction with Emergency Planning Canada, we have established and maintained both a "Vital Points Program" to identify facilities that would require protection in a major emergency and a "Line Load Control Program" that would ensure that essential telephone users have the capability of initiating calls during an emergency. The training of a nucleus of Radiological Defense personnel continued.

Joint Emergency Planning Program (JEPP)

This program makes approximately $250,000 available annually to the Province of Saskatchewan. Under the terms of a Memorandum of Understanding between the Government of Canada and the Province of Saskatchewan, Saskatchewan Emergency Measures Organization negotiated a five year emergency preparedness program with Emergency Planning Canada. This program addressed the priorities and joint interest areas of both and will be funded under JEPP. Mutual Aid Areas are encouraged to make use of the JEPP funding available to develop a viable emergency response capability.

Demonstration of a chemical suit purchased under the Joint Emergency Planning Program.

The budget for year two of the Five Year Provincial JEPP Project, 1986-87, was submitted to Emergency Preparedness Canada and received approval. This funding was responsible for the excellent progress achieved with developing emergency planning at the municipal level. This was accomplished through our training program and the efforts of our two municipal consultants.

Over $353,000 in federal funding for JEPP projects was approved for the province of Saskatchewan in 1986-87. This consisted of $137,000 for our provincial program and $216,000 for 15 municipal project submissions. Funding received under JEPP in 1986-87 totalled $274,000 which consisted of $114,000 for the provincial program and $160,000 for 10 completed municipal projects.

These funds are being used to offset the cost of emergency response equipment for municipalities which perhaps could not handle the financial burden alone. Some examples are mobile radio systems, Jaws of Life, air breathing apparatus, chemical suits and fully equipped emergency response vehicles. All of which will enhance the response capabilities of these communities.

Legislation

The Civil Defence Act under which the Emergency Measures Organization currently operates, no longer meets the emergency planning and disaster response requirements of the province.

A draft of the proposed "Emergency Planning Act" legislation was provided to all municipal governments for review and comment. The Saskatchewan Urban Municipalities Association and the Saskatchewan Association of Rural Municipalities were also asked for input as well as other interested parties. Comments and suggestions arising from review of draft legislation will be assessed and the final legislation will be prepared.

Administration and Communications Branch

R.P. Knoll
Director

Objectives

- To provide centralized administrative, financial, personnel, information, procurement, systems and office support services to all branches.
- To advise Department management on administrative issues, and develop and implement administrative policies.
- To represent the Department and provide liaison with private and central government agencies for the acquisition of resources.
- To keep the public informed of environmental and public safety issues and to enhance public awareness of Department policies and programs.

Activities

- Executive administration to facilitate the operation of offices for the Minister, Deputy Minister, Assistant Deputy Minister and Special Advisor to the Deputy Minister in respect to staff resources and related office requirements.
- Management and advisory services on administrative, financial, and personnel operations; preparation of budgets, legislation, Cabinet and Treasury Board submissions; and administrative policy development and implementation.
- Financial and procurement services for central accounting of expenditures and revenues, contract administration, and grant payment authorization; and the acquisition of CVA vehicles, supplies, equipment and services for the Department.
- Personnel and office services for management of central records, forms, filing, mail and library functions; provision of office space, furniture and parking; and staff recruitment, evaluation and development requirements of the Department.
- Systems and computer services for acquisition, management and operation of all department computer systems; provision of analyst support services; and co-ordination of central word processor services for the Department.
- Information services for the management of department publicity campaigns; design and development of program brochures and publications; preparation of press releases and public meeting notices; co-ordination of annual reports; maintenance of department audio/visual equipment; and operation of Department inquiry line.

Financial and Procurement Services

This section was responsible for all accounting and purchasing operations for the Department. This included processing expenditures, purchase of materials and supplies, processing of travel and sustenance claims, budgeting, inventory control, collection of revenue, contract administration and maintenance of departmental accounting records and statements.

The section is fully automated using personal computers and the government revenue and expenditure system. Central control of inventory, CVA vehicles and telephone requirements have been aided by this move. With the addition of the Public Safety Division an even greater reliance on automation will be forthcoming.

Personnel and Office Services

This section provided centralized personnel, accommodation, library records and mail services to the Department.

The personnel functions for staff recruitment and evaluation were transferred back to the Department from Saskatchewan Agriculture, Human Resources Branch, effective July 1, 1986. The staff development function continued as an important factor in meeting the training needs of Department staff.

The Environment Library subscribed to periodicals and purchased books, reports, pamphlets and microfiche for staff. The library also obtained inter-library loans, and co-ordinated staff requests for computer searches.

This section received and distributed all incoming Department mail, and processed all shipments and outgoing mail. The Department's centralized records system is also maintained by staff of this section.

Systems and Computer Services

This section co-ordinated all computer programs in the Department and participated in systems studies to improve effectiveness and efficiency of Department operations. Services include assisting branches in the acquisition of computer equipment, providing analyst support services and developing computer programs for use by the Department.

Recruitment of a programmer analyst was completed during the year. This section also participated in the University of Regina Co-op Work Study program.

During the fiscal year, the section assisted in acquiring 10 computers, 2 laser printers, 6 terminals, 1 plotter, 3 letter quality printers, and 2 dot matrix printers for Department use.

Significant resources were allocated to software development and computer training for Department staff. Progress was made on the Department Informatics Strategic Plan.

Information Services

The Information and Communications Branch was amalgamated with the Administration Branch at year end. This produced the Administration and Communications Branch; which included an Information Services Section responsible for departmental information and publicity functions.

Staff continued efforts to keep the public informed of all major events concerning the environment, and in the latter part of the report period, also public safety issues due to the transfer of that program to the Department. This was done through the use of news releases, notices, advertisements and tender ads. Sixteen news releases were prepared and distributed to the media during the fiscal year.

Table 25
1986-87 News Releases Issued

Subject	Date
Potassium Sulphate Fertilizer Plant Gets Environmental Approval	April, 1986
Environment Week	June, 1986
Saskatchewan River Dye Studies	July, 1986
Emergency Communications System Operation	July, 1986
Public Review Period Announced (Weyerhaeuser)	August, 1986
Western Coal Report Released	August, 1986
Rafferty/Alameda Board of Inquiry	August, 1986
Maple Creek Public Meeting (EMO)	August, 1986
Institutional Chemical Collection Program Announced	August, 1986
Lake Athabasca Accident	September, 1986
Assiniboine Slopes Ecological Reserve	September, 1986
Diesel Spill Under Control	November, 1986
Northern Electrical Line Review Period Set	January, 1987
Acid Rain Report Released	February, 1987
Fire Prevention Poster Awards	February, 1987
Reprocessing of Leach Tails Wastes at Cluff Lake Approved	February, 1987

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Staff also assisted in establishing information centres throughout the province to enable the public to view documents on proposed developments of environmental concern.

Existing information materials continued to be distributed on request throughout the year. New materials on Drinking Water Chlorination and the Institutional Chemical Collection Program were developed and distributed on request. The preparation and distribution of the Department's annual report is also the responsibility of this section.

Major advertising campaigns were carried out on the Pesticide Container Disposal Program and Spill Report Centre. The Clean Machine anti-litter program was once again carried out during Environment Week in Saskatchewan, as designated by the Minister. The Department also set up and manned a display during that week. Litter bags were distributed to groups and individuals throughout the province to promote awareness of the environment.

Table 26

Statement of Expenditures and Revenues for the Fiscal Year Ending March 31, 1987

Saskatchewan Environment and Public Safety operations are financed from the Consolidated Fund in accordance with a budget approved by the Legislature.

Expenditures

Administration	$ 962,569
Information and Communications	211,938
Air Pollution Control	368,479
Water Pollution Control	1,464,824
Land Protection	1,684,689
Mines Pollution Control	585,333
Co-ordination and Assessment	450,107
Emergency Measures Organization	449,972
Payments under Operation Recycle Program	851,160
Grants for Environmental Purposes	38,122
Grant to the Toxicology Research Centre	200,000
Grant to the Water Appeal Board	28,599
Total	$7,295,792

Responsibility for the Technical Safety Services Branch was transferred to the Department from Saskatchewan Labour on December 1, 1986. Saskatchewan Labour continued to handle all payments until the end of the 1986-87 fiscal year. The total 1986-87 expenditure for the program was $4,643,646.

Revenues

Water Resources - Rental	$ 801,800
Cost-Sharing - Canada	186,500
Miscellaneous Commodity Sales - Operation Recycle	741,932
Other Revenue - Foreign Exchange, Expenditure Refunds, Personal Mileage	3,082
Total	$1,733,314

Saskatchewan Labour collected revenue during 1986-87 in respect to the Technical Safety Services Branch transferred to our Department on December 1, 1986. The total 1986-87 revenue for the program was as follows:

Boiler & Pressure Vessel	$1,039,977
Gas Safety	1,305,932
Electrical & Elevator Safety	1,135,931
Fire Commissioner	2,541
Total	$3,484,381

List of Tables

Table 1	Urban Air Monitoring Equipment in Saskatchewan Cities	8
Table 2	Classification of Permits	9
Table 3	Water Quality Sampling Statistics	13
Table 4	Spill Statistics by Product, Number of Incidents and Quantity	19
Table 5	Spill Statistics by Cause, Number of Incidents and Quantity	20
Table 6	Municipal Landfill Activities	21
Table 7	Transportation of Dangerous Goods Registrations	21
Table 8	Projects Requiring an Impact Assessment or Undergoing Screening at Year End	32
Table 9	Projects Screened - Impact Assessment Not Required	33
Table 10	Assessment Process Completed	34
Table 11	Projects Deferred or Cancelled	34
Table 12	Number of Inspections by Type of Inspection (Gas Safety Branch)	40
Table 13	Licenses in Effect under The Gas Inspection and Licensing Act	41
Table 14	Licenses Issued Under The Electrical Inspection and Licensing Act, 1981	43
Table 15	Licenses Issued Under The Passenger and Freight Elevator Act	44
Table 16	Approvals and Registrations Issued Under The Passenger and Freight Elevator Act	45
Table 17	Number of Inspections Under The Boiler and Pressure Vessel Act	47
Table 18	Engineer's and Fireman's Qualification, Calendar Year, 1986	48
Table 19	Welding Qualification Tests	49
Table 20	Inspection and Improvement Orders by Property Classification (Fire Commissioner's Branch)	51
Table 21	Plans and Specifications Reviewed by Disposition (Fire Commissioner's Branch)	53
Table 22	Results and Disposition of Fire Crime Report Investigations, 1986	54
Table 23	Oil Burner Licenses and Permits Issued Under The Fire Prevention Act, 1980	55
Table 24	Selected Activities in Fire Prevention Education	55
Table 25	1986-87 News Releases Issued	62
Table 26	Statement of Expenditures and Revenues for the Fiscal Year Ending March 31, 1987	64

List of Figures

Figure 1 Air Quality Indices 1981-1986 9
Figure 2 Industrial Permits Issued 1975-1986 (Air Quality Branch) 10